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The Cover

Fort Manhattan, a trading post founded about 1614, today is the city with the densest population, the greatest manufacturing, and the most extensive foreign trade in the world. Not until 1664, when it was taken by the English, was it named New York. George Washington was sworn in as first president of the United States at its Federal Hall in 1789 and the city was the Federal Capitol of the nation until 1790. Today it has grown to include not only the island of Manhattan but part of Long Island and Staten Island, and is easily the most important city in America. H. H. C.

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American Vocational Association, Inc.

American Vocational Association, Inc., advances American Education by developing economic competence of youths and adults. The Association promotes the professional interests of persons engaged in vocational and industrial arts education. It encourages full-time and part-time programs in these fields: Agriculture, Home Economics, Business and Distributive Occupations, Industrial Arts, Industrial Education, Rehabilitation, and Vocational Guidance.

★

Let's Not Forget Junior

IN the "teen" years of this century the law permitted Junior to leave school at the completion of the 8th grade or when he reached his 14th birthday. The unions and industry allowed him at the same age, to start to serve his apprenticeship. He became a journeyman at 18 to 20 years. The men at the plant said there was no need for a boy to waste time going to high school. They said he might as well get going at whatever he was going to do. Thousands did.

In the 20's, new labor laws and new school laws improved things for Junior. He could not get a job in industry until he was 16. He was required to stay in school until that age. Vocational classes, courses, and schools became more numerous. Manual training shops took on vocational objectives. Woodwork, drawing, and forging departments became cabinet and patternmaking, drafting, and automechanics, meeting the requirements of the Smith-Hughes Act. Annexes were added to existing high schools; condemned buildings were reconverted; elaborate new vocational schools were built. Here was a new kind of schooling. They urged him to stay on for a couple more years. Things went along fine with more and better vocational courses. Good jobs were waiting for any boy who had had vocational training. Some unions recognized this school work as part of the apprentice requirements.

Somewhere along the years, industries and crafts raised the entrance age to 18 and occasionally to 21. This gave Junior two more years of schooling. He finished with the equivalent of a high school education. But unfortunately all boys could not, or did not, take advantage of the vocational education opportunities. Perhaps their communities did not offer these advantages.

In the 30's, something went wrong. The educators of America had missed the boat. New agencies took over: Hobo, CCC, and NYA camps were opened. Juniors were herded into them for housing, schooling, and work experience. Some said the boys were not only unemployed but also unemployable—they had not been taught anything to do. All this time we vocational educators had been riding on our ego and boasting of our wonderful schools and our service to American youth.

It took a war to stop our coasting and scare us back into overalls and put us in high gear. In 1941, the VE-ND program was thrust on us with a jolt. Buildings were bought, built, or rented. Production-size equipment was bought by the carload and installed. Steel, aluminum, and welding rod were purchased by the ton. Training was given in quantity and intensity far beyond our dreams of possibility. War plants were staffed with trainees from our vocational war training schools. And all this time Junior was on the side lines, and in the big middle on everything. He wanted to do his part. We had to forget Junior as an individual and a future craftsman. Our sole objective was to win the war.

Before the vocational people could close the war training accounts, Junior was back as an ex-service man. He wanted to pick up where he left off. The G. I. Bill of Rights made provisions for him and we hope we can give him the education and training that are rightfully his. The government provides equipment for schools for veterans, and pays tuition for instruction. Vocational administrators are doing an outstanding job again.

But in our enthusiasm to help the veteran, let's not forget the new Junior, in high school, who also wants vocational training.

We are equipping excellent vocational training plants. There are new materials, tools, and techniques. We dare not drop back into orthodox methods. We must give Junior the education he needs to enter industry tomorrow. We cannot limit our course to skills and technology. He will need help in the fields of economics, labor, management, and social problems.

E. L. WILLIAMS
Vice President, Industrial Education

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MAUDE G. WOODS
State Coordinator
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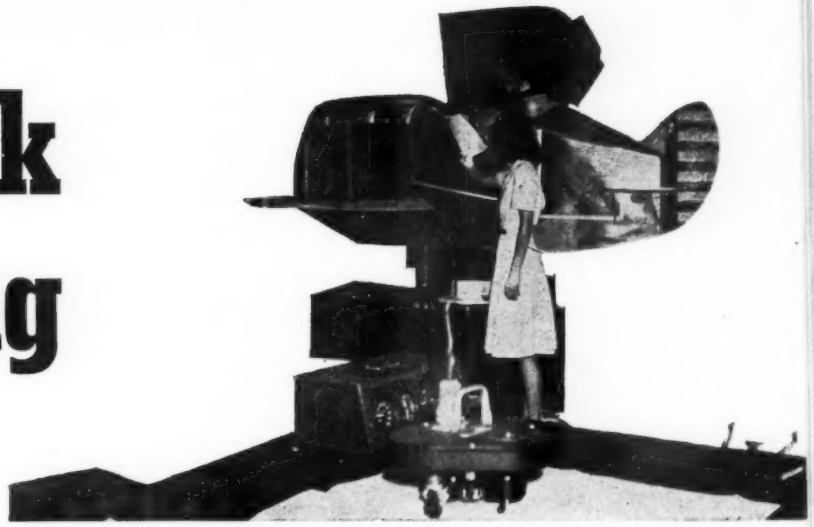
Link Training

Miami Technical High School Program Directed Toward Instrument Rating



The instrument Links, with a student about to be closed in for his flight

FOR many years Miami has been a large aviation center from an operational standpoint. The maintenance shops of four major airlines are located here, as are the maintenance shops of fixed base operators catering to dozens of unscheduled charter airlines operating out of Miami. Nine major scheduled airlines carrying passengers and cargo operate through the Miami International Airport, with approximately 60 flights daily reported for one airline alone.

Because of Miami's record for perfect flying weather (nearly 365 days out of the year) an Army air depot was established here at the beginning of World War II to give speedy service through this aerial gateway not only to South America but to China-Burma-India, Africa, and Australia. Because of this same perfect flying weather, a rapidly developing private airplane and sport plane business is being established in Miami.

Import and export trade is being resumed by air and is conducted on a larger scale now than before the war with South and Central America, the West Indies, and the Caribbean area. Miami's new apparel manufacturing interests, for example, are exporting to the South American trade by air express.

During the war years, public vocational training in Miami for aviation occupations was directed chiefly toward mechanical and operational fields. As emphasis began to shift from war demands to peacetime activities and Miami established itself as the nation's leading airport of entry, the administration of Miami Technical High School foresaw the need for building up a school program that would meet the needs of the expanding aviation industry of the area through the coming years by training their own youth for the jobs that would inevitably open up not only with expansion of business but also with the retirement of large numbers of the present corps of commercial pilots from this field of work.

A survey of major vocational schools throughout the country made in recent months by the administration of Miami Technical High School revealed that almost no vocational schools in other states have considered flight training on a commercial basis.

For several years just prior to the entry of the U.S. into World War II, the Florida State Department of Education had operated a vocational pilot training course at the Marion County Vocational School in Ocala, in which students were given 200 hours of flight training, cross-country and instrument flight training, on completion of which they received their pilot's licenses. Later most of these students were employed as instructors by the U. S. Army Air Forces.

Miami Technical High School had already developed a CAA approved aircraft and engine mechanics program and an approved instrument repair and maintenance program and at the time of the survey it also had projected plans (still under consideration by the Board of Public Instruction) for a three-year commercial pilot training course similar to that operated in Ocala.

In the light of Ocala's successful pilot training program, and with future needs of the Miami area in mind, it seemed feasible to establish a Link training program that would be comprehensive, not catering only to pilots who desired to maintain their instrument ratings but a program with a physical set-up that could be adapted to the teaching necessary to procurement of an instrument rating for their own flight students when the commercial pilot training program was fully established by the Board of Public Instruction. Further, the local school administration was eager to take advantage of the new technique developed by the Link Aviation Co. for pre-flight training in visual flight Link Trainers, since it is estimated that this type of training will reduce the pre-solo or dual instruction time by 60 per cent.

To this end the hoods were removed and all but the usual visual flight instruments blanked out from three Link Trainers. In a shop 45′ x 120′ x 22′, they set up these three visual Link Trainers within three artificial horizons for pre-flight training and ground school instruction—termed primary Link training—and three instrument Link Trainers for the use of licensed pilots in maintaining their instrument rating, as well as for the training of new pilots for procurement of instrument ratings.

To provide the artificial horizon, three canvas screens 30′ in diameter, marked with heavy one-and-one-half inch black lines to indicate the horizon, were laced to circular frames. In the circle with each visual Link Trainer, an instructor's desk, designed by Link Aviation, Inc., holds a recorder which records flight patterns as the student works out his coordination exercises. On each desk there is also a remote instrument box, by means of which the instructor observes the student's performance in the Link Trainer. Instructions for the entire physical set-up of the shop, including the pattern for the screens, were furnished by Link Aviation, Inc.

The primary Link training program, set up on a regular day trade basis, operates as follows: The student spends three hours daily in the Link training shop and three one-hour periods in related instruction in the classroom. He devotes one semester to primary Link training, during which he receives about 20 hours of simulated flight training in elementary flight maneuvers in the visual Link Trainer.

The student usually spends 20 minutes a day (in some cases 30 minutes) in Link training instruction to supplement the pre-flight ground school training. These students practice altitude flying, one under the observation of the instructor and two engage in remedial practice, while other students devote themselves to study of assigned portions of theory or background information. During this first semester, 25 percent of the time is given to study and practice of altitude flying: control of the flight of the airplane about its three major axes by reference to the relationship between the nose and the wings of the plane and the horizon. During the rest of the time students concentrate on study of structures, including the names and position of the parts of the airplane, features of various types of planes, simple construction, and basic engine operation and characteristics; theory of flight; the body in flight; airway traffic control; classes and characteristics of airports; Civil Air regulations; and communications. Films are shown to illustrate techniques and principles under discussion at various times during the course.

Boys who enroll for primary Link training are carefully screened for physical, mental, and psychological qualifications, and every effort is made during this period of training to develop the correct mental attitude necessary to receiving flight instruction to fullest advantage, when it is taken.

If amplification of the program is approved, students who qualify will pass on to the air field for actual flight training. Preparation for this phase of training has been made through arrangements to use the facilities of the approved mechanic school, which has acquired and modified or rebuilt surplus government planes to meet CAA training specifications. These planes, suitable for primary and secondary training, have been properly licensed and the school has made tentative arrangements for use of an airport near the Tech campus.

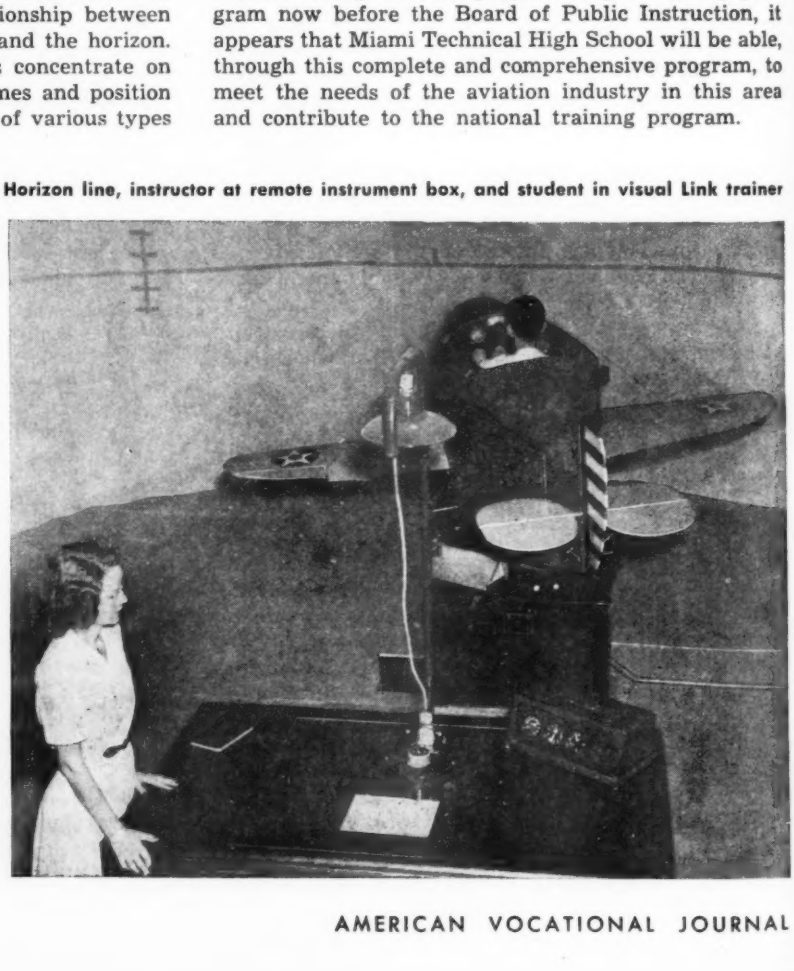
The flight training program will consist of 160 hours of CAA controlled flight training, saving 40 hours of the usual 200 hours of promiscuous flying, with 15 minutes of actual dual instruction each day. The rest of the three hours' time the student will spend on the ground, observing and criticizing flight performance and working on his advanced ground school training.

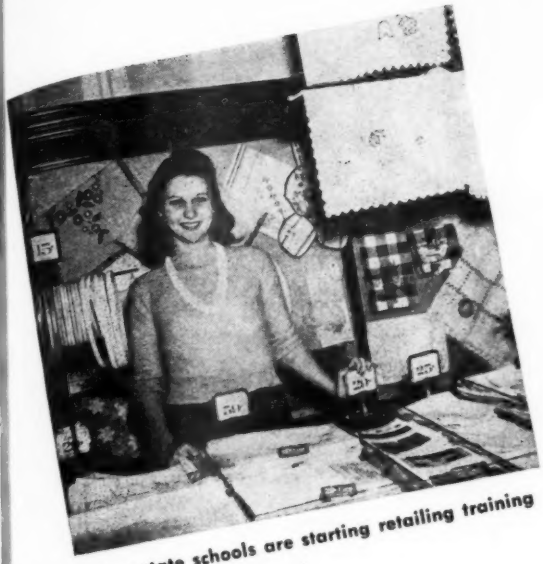
This procedure will continue until after the student solos. When he is "on his own" he will have at least one-half hour each day of solo practice flight under the supervision of his instructor. He follows the entire series of progressive steps up to and including cross-country, navigation, and instrument flight training. During the period of advanced training he will receive a supplementary course in instrument work in the Link Trainer. At the end of three years the student receives his commercial pilot's license and his instrument rating. In addition, he will have acquired an unusually broad knowledge of aircraft mechanics.

At present, the Link instrument trainer instruction is handled on an hourly basis for which the licensed pilot pays a fee covering actual cost of instruction and operation and maintenance of the Trainer.

The Link training unit, which has been operating for one semester, is fulfilling the high expectations of the school in every respect; and with this present Link Trainer set-up and the proposed flight training program now before the Board of Public Instruction, it appears that Miami Technical High School will be able, through this complete and comprehensive program, to meet the needs of the aviation industry in this area and contribute to the national training program.

Horizon line, instructor at remote instrument box, and student in visual Link trainer





More state schools are starting retailing training

NEW MEXICO DEVELOPS D. E.

University and State Department Cooperate in New State Program

WILLIAM B. RUNGE
Teacher Trainer for State Distributive Education Program
University of New Mexico

DISTRIBUTIVE education has developed slowly in New Mexico since 1939. Eight secondary schools have tried cooperative part-time retail selling classes; state vocational department itinerant teachers have conducted salesmanship clinics, show card writing classes, and tourist information programs. Other courses for employed adults have been held in a few public night schools. The program, however, was never completely organized and supervised from the state level in New Mexico until the summer of 1946.

Through the efforts of Frank Wimberly, then state director of vocational education, and Dr. Walter F. Shaw, western regional agent for distributive education, U. S. Office of Education, an expanded program for vocational distributive education has been in operation since June, 1946. A teacher training program was started in the Department of Secondary Education, University of New Mexico, under Dr. J. W. Diefendorf, head of the department, in cooperation with Dr. S. P. Nanninga, Dean of the College of Education, with the summer session. The writer, who had been the coordinator-teacher at Albuquerque High School for six years, was engaged to develop the program, his primary duty being to organize and conduct regular University courses each semester and during the summer for the preparation of coordinator-teachers. The courses now offered at the University include principles and practices of distributive education, methods of teaching distributive education, development of instructional material for distributive education, and retail store operation and management. Each carries three credits. Offerings will be alternated each semester so the teacher trainer will still have half of his time free for other duties. These courses, in the College of Education, will make it possible for a coordinator-teacher to earn 12 distributive education hours. In addition, a number of subject matter courses are available to prospective business teachers in the Department of Business Administration. These include marketing, advertising, selling, accounting, credits and collections, money and banking, economics, and others.

The teacher trainer devotes the remainder of his time to promotion and contact work over the state with school administrators and business men and to itinerant supervision of the local coordinators in schools carrying on a program of distributive education. Adult courses in this field of education will be developed through the University of New Mexico Extension Department and one class in personnel management has been started. The membership consists of personnel directors from business establishments in Albuquerque. Other adult courses are being planned for employed distributive workers with this key group of personnel people acting in advisory capacity.

Secondary school programs have been started by five new coordinator-teachers this year. Each was asked to prepare a brief outline of his work so far and to include why and how he decided to enter the field, his occupational experience, how he likes the work so far, the part enjoyed most, and any special problems.

Wilson Willits, Albuquerque, came from Michigan with an extensive background in salesmanship, to enjoy the New Mexico climate. His report indicates that he especially likes the placement and coordination features with the cooperative part-time retailing students, and no special problems have been encountered.

Jim Rudd, Tucumcarri, had been high school head coach for several years, had taught business subjects, and in the Army served as transportation and troop supply officer. He writes: "I like the counseling with students and contacts with business men very much. Students are taking a great deal of interest in the new course and enter freely into classroom discussion. One day each week is devoted to group discussions of students' work problems." Mr. Rudd also is interested in the functions of vocational guidance and plans to do as much as his time will allow. He has set up a school placement service and would like to broaden the counseling and testing program.

Mrs. Grace Swain, Clovis, who has been a county superintendent of schools for four years in addition

(Continued on page 37)

About 180 youngsters are being served school lunches in the Verdeland, Utah, school

A School L

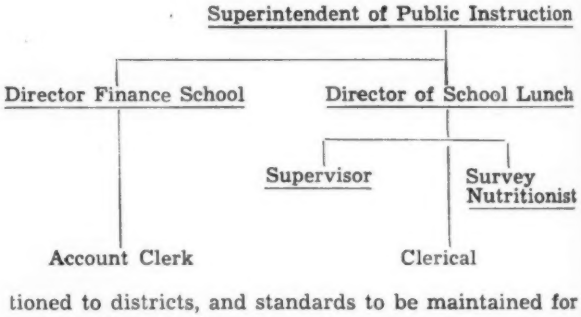
To Be Effective There Must Be Understanding and Cooperation

TOM'S last request before snapping his snug winter cap in place is, "Mother, I need my school lunch money for today." Tom's Mother works in town; school lunch solves her problem for a hot noon meal for her child. Parents are anxious for the continuation of school lunch not only because it provides food for their children at a nominal cost and takes care of the child through the noon hour, but because of the nutritionally well-balanced meal that is carefully planned to safeguard the health of children. Just how Tom's money is being spent is of concern to American parents. As time goes on, more benefits will show up, but until that time parents are dependent upon a responsible school lunch organization with wise and informed personnel to administer the program.

Any program, to be effective, needs the cooperation of all members of its organization. In school lunch this means local school districts and boards of education working with state and Federal agencies. Such coordination, though necessary, is a very large order. Utah has as one of the contributing factors for an efficient program, a legislature which in March, 1945, instigated a unique plan for financing and administering Utah's school lunch program. A general heading of the law reads:

> "An Act relating to public schools and creating school lunch funds to be provided through a tax on wines and liquors. Authorizing the State Board of Education to administer said funds and to distribute to the school districts for continuation of the school lunch program. Prescribing the powers and duties of the school boards and the State Board of Education. Authorizing the State Board of Education to assume responsibility for W.P.A. school lunch supplies and equipment, and making an apportionment from said funds for administering the school lunch program. . . ."

After legislation, Utah's initial step toward a successful program was the early appointment of a state director of school lunch and establishment of a workable organization. Each position on the chart shown below has explicit responsibilities defined in Utah's School Lunch Procedure Manual. Such organization with a distinct line of authority, has made for a congenial, cooperative, and responsive staff of school lunch administrators. The director of the program carries out the policies of the State Department of Instruction, assumes responsibilities for plans, reports, and accounting in compliance with state and Federal requirements. He maintains a system of financial and statistical reports, recommends funds to be apportioned to districts, and standards to be maintained for participation. He inspects and approves all programs for reimbursement.



This year, compilation of figures on meal costs, labor costs, food costs, and meals per worker hour has been made by the director from local school lunch reports. These statistics have served as a basis for comparison and a challenge to units for complete and careful planning. The state office has been able to tell each lunch unit exactly where it stands financially and give concrete suggestions for the betterment of each program.

The director has organized an administrative group comprised of the school lunch director, state supervisor, and survey nutritionist, a state health representative, the administrative assistant and education nutritionist from the U. S. Department of Agriculture, and supervisor of dairy and food from the State Department of Agriculture. This group meets every two weeks. Problems related to school lunch are laid before them for possible remedy and solution. All action taken out in the state is first brought to the committee and discussed. A follow-up is then made by the state department. Such association and coordination has made for understanding and vital interest in the

Lunch Program

MARY B. KIRKHAM
State School
Lunch Supervisor,
Utah

program. Local schools are now looking directly to the state for help instead of receiving instructions from several sources which, many times in the past, left them confused as to what procedure to follow.

The supervisor in Utah is in charge of supervision generally and all local supervision specifically. She works out menu suggestions for each school day in the month, gives advice on standards of work in food preparation, and advice for buying equipment, serving, and dish washing. She sends from her office a monthly News Letter and tested recipes for use in school lunch units. At the present time, recipes are being printed on 5" x 8" cards and files are being compiled in each school lunch program.

Utah's unusual school system has been a great asset to the supervision of the school lunches. The state is comprised of 40 school districts, each covering a county, except in the largest cities. The district has a local superintendent and school board. The appointment of a school lunch supervisor for the district is made by the board. The task of getting information from the state office to the local unit is accelerated and the need for extensive state-wide travel is greatly diminished by this set up. The state supervisor can contact the district supervisor who in turn visits her local units.

It has become evident that a training program for lunchroom workers is important if Utah's program is to improve year by year. The state supervisor, in addition to holding state-wide workshops, has sent out a suggestive guide from the state office to help in planning the school year's program for the school lunch personnel. This program suggests that the school lunch workers assemble at a different unit each month. The workers at the home unit act as hostess, prepare and serve a new school lunch dish to the group, and evaluate its possibilities for use in the school lunch. Some of the aims and purposes for each monthly meeting are: To plan ways of enlisting the cooperation of teachers and parents in making the school lunch an integral part of a total school program; to improve the housekeeping practices in the school lunchroom; to improve the school lunch by demonstrating to school lunch cooks new methods and better techniques in food preparation; to increase the knowledge of the individual school lunch worker in foods and nutrition through use of visual aids; to enlist the cooperation of individuals and organizations in making the school lunch an integral part of the community; to give the school lunch personnel an "all over" view of the year's activities and their performance of work; to plan changes for a more effective school lunch the following year.

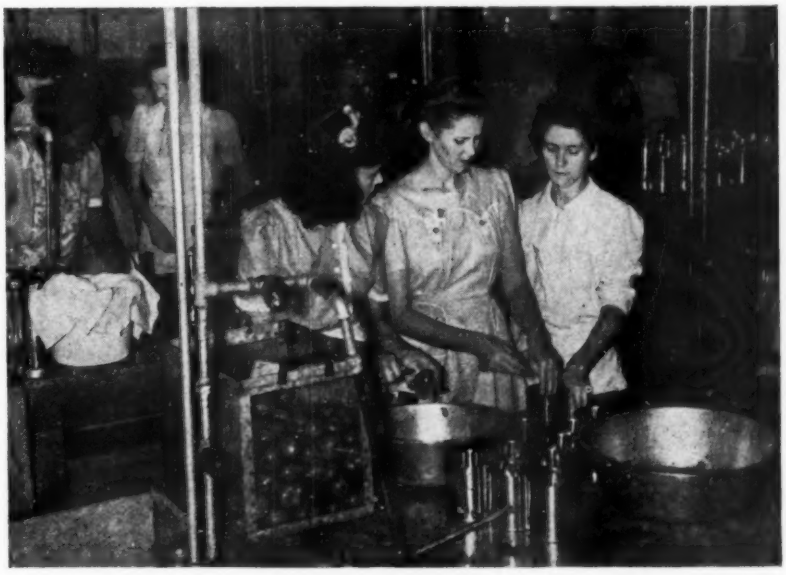
In addition to the suggestive guide the state supervisor and the survey nutritionist are holding demonstrations and meetings whenever requested by the supervisors. Such a service has shown local schools that the state organization is an instrument for their use and that the highest possible cooperation can be had whenever needed.

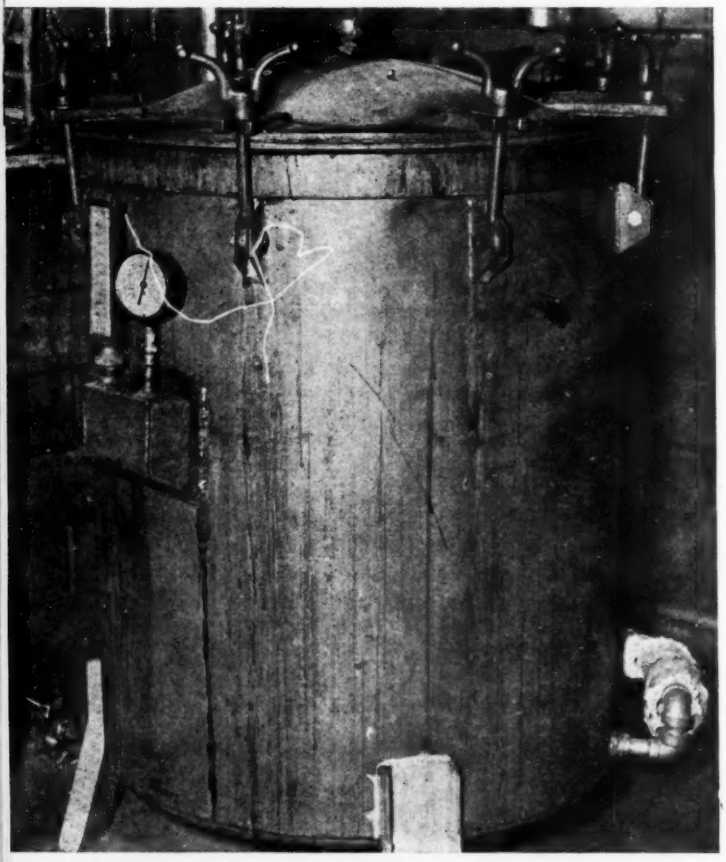
The survey nutritionist makes surveys in all school lunch units as a check on program conformity pertaining to meeting food requirements, labor, sanitation laws, and food cost. She keeps a compilation of surveys and makes recommendations for the supervisor and director, aids in summer training schools, makes recommendations of units to receive non-food assistance, and initiates health surveys to show progress in health status through school lunch.

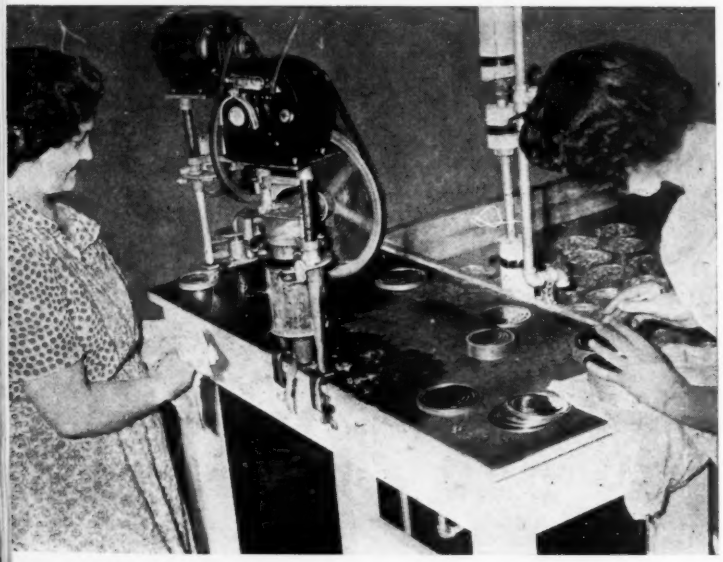
Catching the spirit and purpose of school lunch has been the greatest factor, perhaps, for a growing and effective program. Such meaningful efforts which will secure better economic stability to the people who grow foods, build better health for growing citizens, and increase the meaning of the American tradition of equality and democracy, cannot be thought of lightly. The thrill which comes when children have a wholesome, nutritious noon lunch is reward for the effort put forth. The educational values and social experiences afforded by a school lunchroom are as numerous as the angles of a prism. The possibilities

(Continued on page 35)

Preserving food in the Canton, Georgia, plant operated by vocational teachers







FLOYD COX
Teacher of Agriculture, Bridgeport High School, Frankfort, Ky.

A School-Co

THE school-community cannery is now recognized as one of the most important devices in teaching food preparation and preservation and for promoting better nutrition both in the school and in the homes of the community.

Garden planning, production of new crops, and food budgets take on new meaning when there are facilities available for processing and conserving the home food supply. Quality canned products in greater variety and at considerable saving thus are made available for home use.

On many farms, producing food for home use may be a sizeable part of the farm business, in some cases 15 to 30 per cent. Yet food crops may be limited to corn, beans, cabbage, and tomatoes in season, followed by potatoes, dried beans, and other easily stored products for out-of-season use. Fruits, when available, may be preserved but too often not enough juices and non-acid foods are canned because of the difficulty in getting a good product when the work is done at home. Salt-cured pork may be the only meat available when frying chickens are gone and hog-killing season is over. This is no longer the case in communities in which a cannery has been established.

Within the school it is primarily the responsibility of teachers of vocational agriculture and home economics, through instruction, to see that farm families receive a more adequate diet from the farm, properly supplemented with purchased items. Through both the all-day and adult classes, the home economics and agriculture teachers can work together in helping families solve their problems in planning and preserving the family food supply. Amount of food needed, desirability of a greater variety of products, nutritional values, and making the proper combination and use of foods may be worked out by the home economics teacher. Production practices such as soil management, insect and disease control, planting and harvesting, and the desirability of producing food throughout a greater part of the year, become a part of the agriculture teacher's program.

The school-community cannery is the place where both in-school youth and out-of-school youth and adults can acquire the knowledge and skills necessary to produce the best quality canned foods for home use.

Top—Youth and adults work together to prepare pumpkin for canning in a school-community cannery. Center—The retort where hundreds of cans are cooked by steam under pressure. The clock indicates time to remove the cans. Below—Cans are sealed by an electric-powered sealing machine. A dozen cans can be sealed in one minute with up-to-date equipment.

Community Cannery

Improved Nutrition and Realization of the School-Centered Community Result

Here the latest methods of selecting, preparing, and processing food may be taught and demonstrated in systematic group instruction. The facilities of the cannery provide an opportunity to make best use of available knowledge of food preservation. Equipment such as electric sealers, juicers, steam-jacketed kettles, pressure cookers, and an abundant supply of clean water, makes the job of canning easier, faster, and more pleasant and results in a larger amount and variety of food processed, less waste and better health.

Indirect contributions to a better nutrition program are associated with the cannery. Seeing others preserve a new product may cause a person to try the same thing. Exchanging products is a common occurrence, or pooling the ingredients of a good soup mixture and dividing the processed cans of the mixture. Buying quantities of food (such as peaches) cooperatively from other localities often is practiced. Comparing varieties as to yield and quality is conveniently done and thus helpful teaching takes place.

Although school-community canneries have been operated for a number of years in the South, they first came into use in Kentucky during the early part of the war effort. Today they are regarded as permanent and necessary to provide training in conserving food and improving nutrition. After four years of operation, Kentucky now has 154 community canneries. Each year has seen an increase in the number of persons trained and in the total number of cans processed. During 1946, approximately 4,000,000 cans of food were processed.

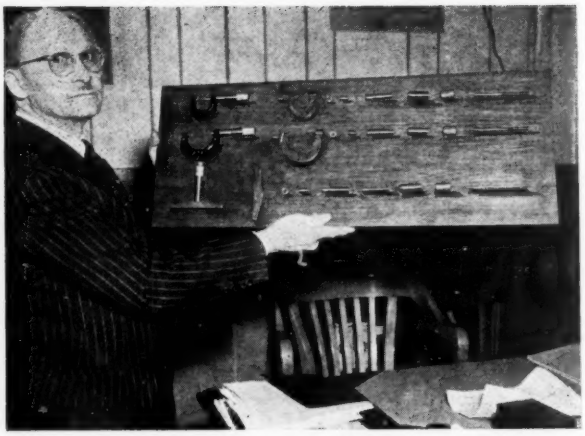
Bridgeport School, one of four county high schools in the county, built its school-community cannery in the summer of 1943. During the previous winter classes had been conducted by the home economics and agriculture departments on planning and producing food for home use. That year about 125 families processed 16,000 cans, mostly corn, green beans, tomatoes, and peaches. The following winter additional class work was done in planning and production with special emphasis on greater variety and improved quality through careful selection and harvesting at the right stage. As a result, 170 families processed 20,000 cans with quality and variety improving. During 1945, a new tomato juicer helped to bring the number up to 25,000 cans with 210 families participating. In 1946, nearly 300 families processed more than 40,000 cans of food besides making sausage and rendering lard from Thanksgiving to Christmas. Greater variety has been the keynote in developing the food preservation program at Bridgeport. Operation of the cannery also was easier this year because of cannery improvements and the training which had taken place. The increased use made of the Bridgeport Cannery during this four-year period is an example of what has taken place in other canneries operated by vocational departments throughout the state.

Four developments point toward a better nutrition program as a result of the Bridgeport enterprise: (1) A continual increase in the amount of food preserved. (2) A steady increase in the number of families reached. (More than half of the families in the patronage area have not yet been reached.) (3) A consistent improvement in the quality of food consumed. This has been brought about by selecting better varieties for conserving, exercising greater care in harvesting and preparing (especially freshness), buying a better quality product (as in the case of peaches), and greater care and accuracy in the processing phases such as exhausting, cooking, and cooling. (4) A decided improvement in the variety of products including the trend toward better diet in juices, fruits, and green vegetables. More than 30 kinds of products were processed last year. Fruits are canned instead of preserved. Larger amounts of tomato juice than tomatoes are prepared. Soup mixtures and mixed vegetables are increasing in popularity.

Early in the canning season the home economics teacher and agriculture teacher check on new arrangement of equipment and any new techniques to be followed in conserving food. During the first part of the season it is necessary to work closely with the program. As the season advances and people have received some instruction in the cannery, an assistant cannery instructor is able to carry on very effectively, with only occasional supervision and help from the home economics and agriculture teachers.

People in Kentucky long have been talking about a school-centered community. The community canning program, and in many cases the slaughter house which has been added, have done much to make the school-centered community a reality.

In addition to the all-day program for boys in agriculture and the home economics classes for girls, there is the adult program for men and women, the program of education for young farmers and young women, the farm shop, the community cannery making more effective food production and food preservation, and the program of education for veterans, all contributing to a well-rounded service which directly or indirectly touches the lives of almost every person living in the patronage area of the school. Thus the Bridgeport School functions to make real the "school-centered community," ideal, serving the needs of all youth and adults.



Micrometers made during war at Harding H. S. Machine Shop

L. H. REIKER
Coordinator, Harding Vocational High School, Marion, Ohio

Production Methods in a Machine Shop Program

Maximum Skill in Minimum Time Is Possible Through Planning

ONE of the important objectives in a machine shop program is the development of skill in performance of fundamental operations in the machine trades. There are, no doubt, a number of ways by which this objective can be attained but some of them may not be satisfactory because a satisfactory degree of skill is not attained in minimum time.

In the manipulative phase of a machine shop program, the number of skills or operations that can be taught and developed depends upon the tools and equipment available. At Harding Vocational High School, in Marion, Ohio, students receive training on the lathe, screw machine, milling machine, shaper, tool and cutter grinder, cylindrical grinder, heat treating, bench work, and radial, vertical, and sensitive drill presses. Each division of training has been analyzed to determine the operations that must be taught the student and practiced by him throughout his training period. These operations are listed on cards under each block or machine. For all practical purposes, the operations on the three kinds of drill presses can be combined in many cases.

Next, the emphasis to be placed on these various operations is determined. This step is taken because the learning period in the shop normally covers two years, making a total of 1,080 hours available to develop skill in these operations. Dividing the number of major operations (resulting from an analysis of the foregoing blocks) into the maximum hours available for shop training over a two-year period, gives about 11 hours for each. Training time on each operation should not be the same, however, because satisfactory skill can be attained quicker on some operations than on others, and because some are of more value to the student than others. Some operations recur in the average machine shop job more often than others, also.

Students in the Marion school do considerably more than 11 hours of straight turning, facing, taper turning, etc. Since they are being prepared for gainful employment, those phases of their training that will help them most to get a job, hold it, and advance in it require more training time than those for which they will have little use on the job.

After the emphasis to be placed on the various operations has been determined, the next step is to offer the training so that maximum skill is developed in minimum time.

After many attempts to establish a satisfactory plan of training, it appears that maximum skill can be attained in minimum time only when the operation is taught as the lesson unit, using jobs of practical value to develop skill in the performance of these operations. Most of the operations are taught during the first year of training; the operations performed during this period eventually go to complete useful jobs. During the second year, students are assigned jobs to continue the development of skill.

While this may seem to be nothing more than conventional training procedure (and it is that and nothing more), there is a right and a wrong way to do it. If a job involves 10 pieces and straight turning must be performed on each piece, instead of having 10 students each perform the straight turning on one piece, two students each perform the straight turning on five pieces and skill in straight turning thus can be developed faster. The student will develop more skill in straight turning on the fifth piece than he developed on the first and second pieces together. Thus students are given both immediate repetition and intermittent repetition; they straight turn five pieces one week and perhaps eight pieces one month later. Each student does not necessarily follow through on his job until it is completed. If a milling machine operation follows a lathe operation, the milling machine operation is assigned to the student working on one of the milling machines.

Such a training plan for a shop can be best illustrated by showing how a typical production job is handled. For example, a No. 2 Morse taper inserted tooth end mill about two inches in diameter with four cutters. These cutters can be used to good advantage, they make a sturdy tool, and the blades are easily and cheaply replaced or reground.

Instead of making only one, make four or five. Of course, the shop instructor has other jobs in process at the same time. After deciding upon the number to make, a student who has had the least experience on

the power saw, or the student making the least progress, is assigned to cut off the stock on the power saw. The remaining operations are assigned to the students needing work experience on these operations. It should be noted, however, that a student working on the milling machine at the time this job is put in production is not pulled off the milling machine and assigned to the lathe to perform one or more of the lathe operations simply because he may not have had enough lathe experience involving these operations. His lathe training will not be neglected because it is not a hit-or-miss proposition. Assignments are made according to the student's needs.

After the stock is cut off in the power saw, one student centers all the stock. Another student performs all the lathe operations and (since we have a cylindrical grinder) the work is rough turned and finished on the grinder. If there is a dividing head for the milling machine, place the work in the spindle, drill four equidistant holes, ream with a taper reamer by hand or power. If a dividing head is not available, the work can be laid out on the bench and drilled on a drill press.

The next step is cutting the slots to hold H.S.S. tool bits. A 3/16" or ¼" tool bit can be used. They can be ground in halves. The slots can be cut straight or at an angle. They must, however, be cut so that the cutting edge of the tool is on center. These milling machine operations are performed by the boy on the milling machine.

The bits now are placed in the holders by a student on bench work, then given to the student who is scheduled to operate a tool and cutter grinder. The tangs may be milled or drilled and tapped according to the way it is going to be used.

From three to six more cutters result, and each student gained speed and accuracy by having more than one piece of work at a time.

If the instructor has a progress chart, he can record the skills the student has covered, the time, and then grade him when he has completed the job.

Students taking the machine shop course at Harding High School set up as a project during the war, the making of 200 one-inch, 200 two-inch outside micrometers and 75 micrometer depth gages.

The first step involved the inspection of different makes of micrometers already on the market and then designing one that could be made by students in the school shop. The frame castings were made by a local foundry and all jigs, fixtures, gages, and rolling machines were made by the students. Every operation was planned according to the students' abilities.

The school did not have all the necessary equipment nor could it have been purchased if funds had been available, so it became necessary to design and make some equipment to do the job. The operations were scheduled just as they would be scheduled in industry and then finished by hand. The accuracy obtained was equivalent to the accuracy of the lead screw on the lathes; some were within 2/10ths of a thousandth to ½ of a thousandth of an inch.

The first few times a student performed any one of the operations involved in making a micrometer,

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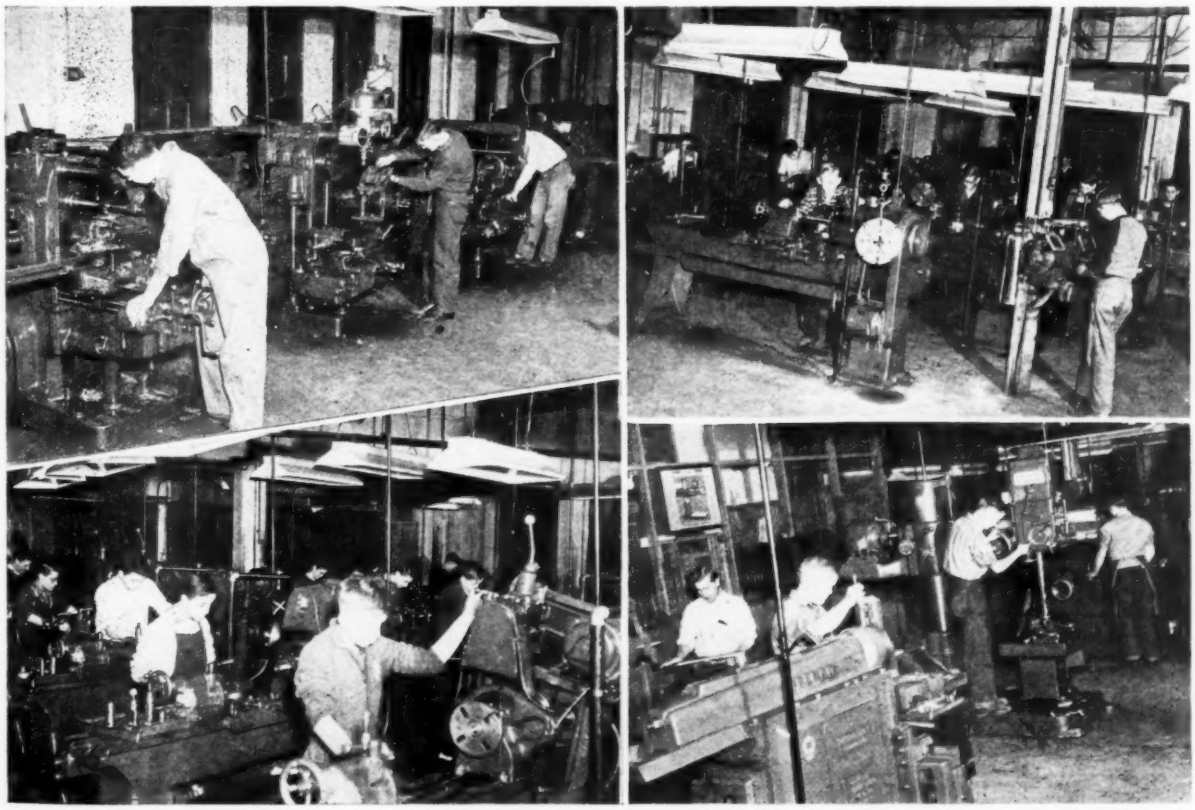


Jobs of practical value are performed to develop skill in operations; the student's hours of experience in each are recorded

Students and teacher put sugar cure on meat for curing room

The Community

Louisiana Canning Centers Preserve Improved Products Raised on Farms

SINCE the establishment of agriculture and home economics departments in Louisiana, teachers have been endeavoring to improve conditions found in the homes of their pupils as well as in other homes in the community. Through boys and girls enrolled, they have been able to establish better breeds of livestock on the farm, better varieties of crop and garden seeds, the best method of preparing food, care of the home, and many other important improvements. All mean a great deal to the average rural home.

In many cases, however, the improved products of the farm have been handled in the same manner as the poorer products produced before agriculture and home economics departments were established. People did not have the facilities on the farm for obtaining the best from their farm products. It was evident that the time was right for teaching how to preserve and conserve the improved products, and the school-community canning centers accomplish this objective.

Fully equipped with slaughter houses, canning facilities, chilling rooms, curing rooms, and in some cases with freezer lockers and smokehouses, the school-community food preservation and conservation center serves the same purpose for agriculture and home economics departments as does the chemistry laboratory for the chemistry class. Agriculture boys and home economics girls are taught the job in the classroom before they try it in practice in the center. They are taught and trained to select the best products in order to get the best results; they are trained to take care of the products before they are processed. Thus the community canning center is a training facility where students actually "follow through" with food preservation methods learned in the classroom, for here the students "learn to do by doing."

Cattle, swine, and poultry are killed and dressed under the supervision of the teacher, in the slaughter house. The meat is then taken to the chilling room and later students are trained to cut it and select the best pieces for a certain product. They learn to make sausage, chili, soup stock, head cheese, lard, hams, bacon, and how to cure, smoke and freeze meat. All of these operations are actually performed by the student after his study of methods in the classroom. Vegetables are processed in the same manner as meats.

Training does not stop after the products have been processed. Students are taught how to prepare a good dish from the canned, frozen, and cured products.

Four-year programs of work for the job operations in the community canning centers are set up, just as they are for farm shop work and other agricultural studies.

In addition to the all-day students who practice approved methods of preservation and conservation, young farmer and adult evening classes are held. Here the instruction is stepped up to meet the needs of the individual class members. Young farmer and adult groups are not only taught how to perform the job, but they learn why it is done in that manner.

All of the problems have not been solved, but people are getting a better cured, frozen, canned, and smoked product. Boys and girls are trained to make more nutritious and palatable food from their farm products. The teachers of these classes are prepared and able to teach these things because of adequate space, modern facilities, labor-saving devices, and the equipment found in the food preservation and conservation centers.

The National Picture*

THERE were, as of January 1, 1947, 3,000 community canneries in the United States, capable of processing 500 cans of food or more daily. These canneries are located in Alabama, with 46; Arizona, 9; Arkansas, 98; California, 64; Colorado, 4; Delaware, 2; Florida, 30; Georgia, 400; Idaho, 16; Illinois, 20; Indiana, 7; Iowa, 6; Kentucky, 150; Louisiana, 209; Maryland, 35; Michigan, 50; Minnesota, 37; Mississippi, 102; Missouri, 80; Montana, 26; Nebraska, 1; New Hampshire, 5; New Jersey, 5; New Mexico, 14; New York, 8; North Carolina, 240; North Dakota, 10; Ohio, 23; Oklahoma, 97; Oregon, 11; Pennsylvania, 50; South Carolina, 263; Tennessee, 55; Texas, 553; Utah, 4; Vermont, 5; Virginia, 150; Washington, 14; West Virginia, 31; Wisconsin, 8; Wyoming, 2; District of Columbia, 1.

From June 8, 1945 through December 31, 1945, 8,069,352 quarts of fruit had been canned, 17,632,943 quarts of vegetables, and 3,851,764 quarts of meat, or a total of 29,554,059 quarts. Altogether 910,832 pounds of dehydrated foods had been preserved, 628,146 pounds of fruit, 145,830 vegetables, and 136,856 meat.

Frozen foods consisted mainly of meat. The total was 685,246 pounds and of this amount 79,569 was vegetables, and 74,896 pounds was fruit.

*U. S. Office of Education Statistics.

Benefits

I. N. CARPENTER
Assistant State Supervisor
Agricultural Education
Louisiana

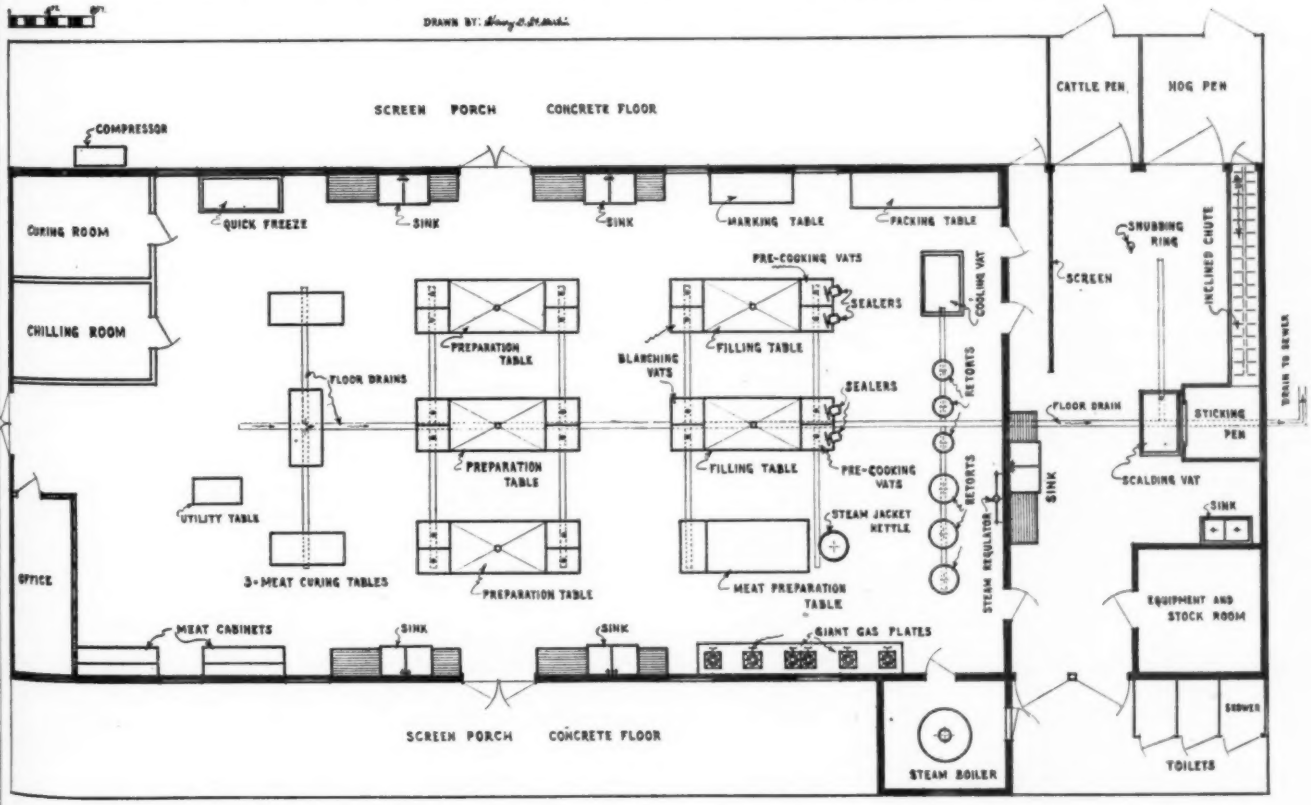
A total of 217,926 pounds of meat was preserved by the curing process, and 573,438 pounds of food was preserved by other methods than those listed here.

Of the total allotted to the U. S. Office of Education for disbursement to the states for financing the program, $1,529,000 was spent, which represented approximately $3.60 per person enrolled in the training program.

Arizona, with a total enrollment of 1,410 canned a total of 71,359 quarts. Arkansas enrolled 12,941, canned 1,175,519 quarts. California enrolled 21,719, canned 1,107,234 quarts. Colorado enrolled 3,924, canned 119,205 quarts. Delaware enrolled 684, canned 50,245 Florida enrolled 3,196, canned 166,176 quarts. Georgia enrolled 57,161, canned 5,681,184 quarts. Idaho enrolled 8,157, canned 492,501 quarts. Illinois enrolled 17,015, canned 803,526 quarts. Indiana enrolled 1,026, canned 75,836 quarts. Iowa enrolled 543, canned 44,153 quarts. Kentucky enrolled 26,766, canned 1,571,990 quarts. Louisiana enrolled 11,692, canned 860,785 quarts. Maryland enrolled 1,811, canned 67,455 quarts. Michigan enrolled 5,525, canned 264,270 quarts. Minnesota enrolled 15,165, canned 709,750 quarts. Mississippi enrolled 11,012, canned 872,238 quarts. Missouri enrolled 12,415, canned 560,702 quarts. Montana enrolled 4,964, canned 213,109 quarts. Nebraska enrolled 1,230, canned 39,330 quarts. New Hampshire enrolled 669, canned 30,507 quarts. New Jersey enrolled 1,250, canned 80,984 quarts. New Mexico enrolled 879, canned 82,508 quarts. New York enrolled 2,285, canned 80,779 quarts. North Carolina enrolled 23,464, canned 2,319,572 quarts. North Dakota enrolled 2,747, canned 90,123 quarts. Ohio enrolled 4,613, canned 289,215 quarts. Oklahoma enrolled 12,354, canned 918,162 quarts. Oregon enrolled 4,173, canned 227,803 quarts. Pennsylvania enrolled 3,774, canned 176,260 quarts. South Carolina enrolled 44,822, canned 3,897,508 quarts. Tennessee enrolled 8,472, canned 602,802 quarts. Texas enrolled 57,758, canned 3,229,482 quarts. Utah enrolled 748, canned 70,143 quarts. Vermont enrolled 916, canned 29,022 quarts. Virginia enrolled 30,072, canned 1,791,007 quarts. Washington enrolled 3,635, canned 284,013 quarts. West Virginia enrolled 5,531, canned 269,778 quarts. Wisconsin enrolled 1,825, canned 88,545 quarts. Wyoming enrolled 529, canned 43,856 quarts. District of Columbia enrolled 189, canned 5,423 quarts.

EDITOR'S NOTE: In addition to the floor plan below of the Lucher, Louisiana, Food Preservation Center, there is a smokehouse located adjacent to the cattle pen and hog pen.

St. James Parish, Lutcher Food Preservation and Conservation Center, Louisiana



Omaha, Nebraska, Among First to Start, Finds New Needs to be Met

D. E. is a Changing Program

THE retail training department of Technical High School, Omaha, Nebraska, is in its 26th year. It was established in 1920 when a survey revealed that a large per cent of the school's graduates went into retailing, but the high schools of the city offered no retailing subjects.

The program covers a period of two years and follows the established pattern—mornings in school, afternoons working in various stores. Grades are given for store work as for any laboratory subject. Weekly time cards, kept by the merchants, are sent to the school. Coordinators make placements and constantly follow up the work of each student.

For the past three years a pre-employment course has been offered to those interested in working Saturdays and during vacations. This 21-hour course was given after school, and covered operation of a cash register, making change, wrapping packages, a review in arithmetic, and fundamental principles of salesmanship. It has been an excellent feeder for the cooperative course.

Support of the Associated Retailers of Omaha has been consistent, and was evidenced last spring when they sponsored "Store Day." In order to interest more students in retail selling, 250 sophomores from three high schools were given an opportunity to work for a day in the stores, and at noon were entertained at a luncheon by the Associated Retailers, at which the program, and the future of retailing, were explained. *—Gladys Peterson, Coordinator, Technical High School, Omaha, Nebraska.*

A COURSE covering the mastery of technical information in the field of "Buying or Selling Transportation Service" is an excellent example of a unit of instruction requiring several years of classroom work. The division of distributive education in Omaha has conducted a three-year course in transportation studies since 1940, available to both buyers and sellers of such services. Each class meets for three hours weekly for 33 weeks yearly, and each student must continue this schedule for three years to complete the 300 hours of instruction required for graduation. Despite the length of the course, attendance has averaged 93 per cent during the past five years. All work missed by an absentee must be made up prior to his graduation. Upon completion of the three-year course an elaborate Certificate of Achievement is issued jointly by the Omaha Public Schools, the State Department of Vocational Education, and the Omaha Traffic Club.

Much of the success of the program has been due to the active cooperation of the Omaha Traffic Club. Through their recruitment program, an annual enrollment of between 150 and 200 students has been maintained. An annual banquet honoring traffic students has been given by the Club and has contributed toward encouraging member participation.

Since the studies are of a technical nature, the education committee of the Club has furnished most of the instructional material. Their approval is also required before an individual will be certified as an instructor.

When traffic courses were first made available, many states developed short unit courses. During subsequent years, however, few states have found a continuing interest on the part of those selling transportation service in the type of training which distributive education has offered.

Omaha's experience, under the leadership of the supervisor of distributive education, Mrs. Rae C. Williams, seems to indicate that continued interest can be maintained if instruction is sufficiently extensive to cover the actual needs of those engaged in the occupation. Many letters of appreciation from former students, and greatly accelerated post-war interest in traffic studies prove that a definite need is being cared for by Omaha's long-term course in buying and selling transportation service. Only limited funds prevent a further expansion in Nebraska of this highly technical field of instruction.—*Cecil E. Stanley, State Supervisor of Distributive Education, Nebraska.*

HOUSEWARE from Sears, Roebuck & Co., and costume jewelry from the Philip Department store were on display in the window and showcases in the salesmanship room at South High School, Omaha, for a few weeks before Christmas this year.

Students from salesmanship classes arranged the merchandise in the wall case and in both windows. A large aluminum cake box with glass plate base, tied with cellophane and red ribbons, was selected for the center of interest. The background for the shining aluminum pieces was a red panel with Christmas festoons. A saucepan and chicken frier were attention-getters at either side of the window and among the aluminum kettles was a whistling tea kettle with a volume gauge on the spout, and a Dutch Oven pressure cooker.

Costume jewelry pieces were arranged in sets in the glass case and on aluminum racks, both using pastel blue for color. Students brought necklaces, bracelets, pins, chains, and bangles in both gold and silver, and rows of garnet and amethyst sets added to the elegance of the display.

All articles were on sale on a consignment basis, and salesmanship students were delighted with the number of sales they were able to report to the cooperating merchants. Fifteen pieces of costume jewelry, six kettles and a number of smaller aluminum pans were sold.—*Jessie Graham, Instructor and Coordinator, Omaha, Nebraska.*

Galen Jones

A Life Adjustment Program

A Report of Action to Date on the Prosser Resolution

J. C. WRIGHT

Former Assistant U. S. Commissioner for Vocational Education

UNDER the auspices of the U. S. Office of Education a study is under way concerned with a "Life Adjustment Program for the Major Group of Youth of Secondary-School Age not Appropriately Served by Preparation for College or by Preparation for a Specific Vocation."

This large group sometimes called the "60 per cent" are those who do not want to prepare for college—at least for the time being—nor do they want to identify themselves with preparation for one of the skilled trades for which the school may offer training.

What do they want to do? Most of them want to graduate from the secondary school as the expected thing, as the completion of their "common school education" according to the standards of present day society. A substantial number want to earn some money so as to be more independent of their homefolks or to enable them to pay their way in the social life into which they are being inducted. * * * * The D.O. program provides the answer for a limited number of youth living in cities, towns, and villages. Farm youth do not have this problem. Their whole adolescent life is a part-time school-and-work program.

This group is not composed of misfits, of delinquents, of those who possess low intelligence quotients, nor is it characterized by a low economic status. It is made up of a cross section of youth who will not go to college and who have not as yet chosen an occupation for which they want specific vocational training.

In January, 1944, the Vocational Division of the U. S. Office of Education began a study of "Vocational Education in the Years Ahead." On May 31 and June 1, 1945, a final conference was held, and at the close Dr. C. A. Prosser brought much of the discussion to a head by presenting the following resolution:

"It is the belief of this conference that, with the aid of this report in final form, the vocational school of a community will be able better to prepare 20 per cent of its youth of secondary school age for entrance upon desirable skilled occupations; and that the high school will continue to prepare 20 per cent of its students for entrance to college. We do not believe that the remaining 60 per cent of our youth of secondary school age will receive the life adjustment training they need and to which they are entitled as American citizens—unless and until the administrators of public education with the assistance of the vocational education leaders, formulate a similar program for this group.

"We therefore request the U. S. Commissioner of Education and the Assistant Commissioner for Vocational Education to call at some early date a conference or a series of regional conferences between an equal number of representatives of general and vocational education to consider this problem and to take such initial steps as may be found advisable for its solution."

The resolution was adopted and in due time Dr. Galen Jones was commissioned to go ahead with a series of conferences on the solution of the problem. We in vocational education welcome the opportunity to cooperate in finding an answer to the problem.

GALEN JONES

Director, Division of Secondary Education
U. S. Office of Education

THE Office of Education committee which prepared the agenda and planned five regional conferences which have been held consisted of J. C. Wright, Raymond W. Gregory, Layton S. Hawkins, Maris M. Proffit, Roosevelt Basler, and your speaker. The first and pilot conference was held in April in New York City, the second in Chicago in early June, the third in Cheyenne in late September, the fourth in Sacramento the following week, and the fifth and final conference in Birmingham early last November. The special consultant and keynote speaker at each was Charles A. Prosser. * * * *

Because of their geographic spread, the comprehensive and representative character of their membership, these conferences should tend to stimulate (1) locally, throughout the country, an interest on the part of individual schools in improving and increasing provisions to meet the educational needs of the non-vocational, non-college preparatory majority of our youth, and (2) nationally, the growth of public opinion in support of the resolution and the development of competent leadership for outlining and prosecuting the educational program which its realization requires. * * * *

Enrollment data show that even in 1940-41, the banner year for high school enrollment, there was 27 per cent of the age group 14 through 17 years not in school. It is self-evident that these boys and girls are receiving no life adjustment training by the school since the school has in no way made their acquaintance. These out-of-school youth of secondary school age constitute a large part of the neglected group with which the Prosser Resolution is concerned. There is another large percentage that enters but does not

(Continued on page 39)

(For a complete report, send to the U. S. Office of Education for Misc. No. 3226, December, 1946.)

Guiding the play of children, taught in New York Institutes

Recent Developments in Vocational Education at Secondary School Level

Technical Institute

FOR many years plans have been considered in New York State which would provide training for vocational opportunities in schools outside the larger cities where the vocational schools now are located. Recent developments show that progress is being made. Home Economics is concerned, since it is important that some girls have the opportunity to be trained at the high school level for earning a living as well as to have training in homemaking. Four recent developments are helping to make this possible.

(1) As a part of the total homemaking program emphasis is being given during the latter part of the vocational homemaking program to training for jobs that may be available in the community. These are jobs for which home economics training would make a contribution.

(2) A county-wide plan for providing vocational training at the high school level is receiving recognition. In one county, a state law provides a vocational training board which assumes responsibility for developing a variety of vocational training courses at different schools. Pupils can attend any school in the county tuition free where the type of training is offered in which they are interested. For example, beauty culture is offered at one school, auto mechanics at another, and machine shop practice at a third. Bus transportation is provided for pupils wishing to attend any school in another district than where he lives.

(3) Some communities are developing programs which will include specialized training in a few carefully chosen fields, offering the opportunity for nearby school districts to send pupils to the school for this training during the senior year. One school district is planning a new high school building with a wing for vocational training. Because of placement opportunities in the vicinity, training will be in two allied fields—food service and for the local mills and clothing industries. Pupils will follow a program in homemaking in high school which may culminate in the senior year in special vocational training with carefully guided work experience. Necessary transportation will be provided for pupils from nearby districts who want to avail themselves of this opportunity.

(4) Considerable time has been given for 3 years to the study of an intermediate unit or school district as a means of improving educational opportunities in rural areas. This would be a district composed of central, common, and union free districts not under a village or city superintendent, united to provide the educational services which the smaller school districts cannot furnish economically or effectively. It is hoped that this may develop in such a way that the opportunity for training may be extended to many pupils whose vocational interests lead them into the unskilled or semi-skilled occupations. In all instances for girls, the homemaking education providing education in all phases of homemaking, would precede special vocational training.

There has been a growing need for public education which trains on the post high school level for occupations of a more technical nature. The New York State technical institute program provides such opportunities. Six technical institutes have been in existence for some time; five new institutes of applied arts and sciences currently are being developed.

The institutes were originally established by separate acts of the legislature between 1906 and 1916 as state schools of agriculture. After recommendation of the Regents Inquiry, new technical courses were added in addition to agriculture and home economics, and the name, "Schools of Agriculture" changed to "Agricultural and Technical Institute."

The institutes are designed to offer terminal training only leading to immediate employment. Opportunities are offered boys in agriculture, watch and clock repair, building trades, and a variety of technical and industrial occupations. The training offered girls has two objectives: to train for homemaking, and to train for wage earning in some related field. Home economics is offered in four of the six technical institutes which have been in existence for some time. Plans call for developing programs in the other two as soon as home economics buildings can be made available.

Each of the four technical institutes offers two special fields of training, one of which is institutional

The school tearoom provides learning experience for students

DOROTHY S. LAWSON
Bureau of Home Economics
New York State Education Department

in New York

food administration. In one other institute training in clothing design and construction is offered; in a second, child care training; in the third and fourth, training for practical nurses, as the second curriculum offered.

All courses are two years in length except practical nurse training. This is a nine months course with three months devoted to study at the technical institute and six months experience under supervision in an affiliated hospital. This course may be lengthened to two years in order to provide more homemaking training and to give time for supervised experience in homes in the care of the sick.

All students are required to have some work experience during the summer between the first and second years. During the second year each senior spends some time in the field on a cooperative job. Experience is provided in food administration through the actual participation in the preparation and serving of food to all students in the institutes. In one school a coffee shop, available to the public, offers additional opportunity for experience.

Training has been strengthened in recent years to make it possible for graduates to fill positions of considerable managerial responsibility. Food administration graduates now are assistant dietitians in hospitals, assistant managers in hotels, tearooms, and restaurants, workers, cooks, and managers in school lunch programs. One is a "trouble shooter" for a large chain of restaurants.

Graduates from the child care curriculum hold positions in nursery schools, in private homes in the care of children, and in group care of children in institutions. Clothing majors have positions in stores and dress shops and many have home dressmaking shops of their own. Although planned primarily as terminal training, a few highly qualified students have gone to college to train for teaching. Throughout the two years, emphasis is given to wage-earning work which graduates might do who marry and wish to add to the finances of the home.

Since boys should have some training for homemaking, this opportunity has been developed in various ways but no course in home and family living is as yet available for men.

The present technical institutes, located in small communities, do not offer sufficient opportunities to the city and urban population. Expansion of the curriculum also is difficult in the present locations. It was logical, therefore, to plan for additional institutes, and the Regents Plan for Postwar Education in New York recommends expansion of the six existing agricultural and technical institutes and establishment of eleven new institutes of applied arts and sciences. Funds are provided by the legislature for studying the situation, including possible location and number and the proposed curriculums at each institute. Considerable research has been made by a special staff brought to the State Education Department for that purpose. Bills were introduced in the State Senate and Assembly in March 1946 establishing five institutes for an experimental period of five years. The act became law in April, 1946. The five institutes are located in Binghamton, Buffalo, White Plains, Utica, and one in New York City which may have one or more branches. Funds were provided for operating expenses, alterations, repairs, equipment and installation.

The five institutes now are being set up. The curriculums will include basic preparation for selected art, technology and sub-professions which require a technical proficiency not reached in high school programs; related offerings in arts and sciences; and personal and civic arts designed to further the general welfare and understanding of the students.

Although it is necessary to begin with basic training for well established fields, the institutes eventually will offer training in newer fields of occupational opportunities. The training for girls, in addition to food administration, will include dental hygienist, medical assistant, commercial and industrial arts and design, retailing, including interior decoration, foods, jewelry, practical nursing, general merchandising. Some new fields will be explored later as the institutes become further established. These may be in areas such as transportation where operational positions are available, in optical technology, and in industrial chemistry where laboratory technicians and assistants are trained.

Although education for homemaking is not now included in the way it is given in the already established technical institutes, it is part of the plan for later development. Some education for home and family living will be included in the training of all

(Continued on page 37)

A practical nurse in training serving a meal to her patient

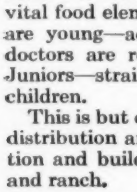
Are you using these "hired hands"?

It often seems as though a farmer or rancher never has enough help. But did you ever stop to think that there are literally thousands of people who work for you that you seldom, if ever, see?

These unseen "hired hands" are the scientists of agriculture, who work for you the year 'round in agricultural experiment stations of the nation. Their accomplishments are many—and can benefit you directly in proportion to the advantage you take of their services. They've helped increase productivity of the land, helped develop better-yielding crops, better livestock and poultry. Yet, never satisfied that perfection has been reached, the experiment stations *continue* to explore the possibilities of further aid to agriculture.

The experiment stations in the 48 states are to the business of agriculture what our research laboratories are to Swift & Company. It is in the research laboratory that we put science to work for us, to improve our products and our business. It costs us money—but we consider it money well spent. Farmers and ranchers are indeed fortunate to have much of their research work done for them—and paid for out of public funds derived from taxes.

We like to think of these agricultural experiment stations as a vast bank of valuable scientific knowledge. To maintain the assets of this bank, millions of dollars from this year's $1,235,055,000 budget of the United States Department of Agriculture go to the various state experiment stations, to conduct experiments sponsored by the U. S. D. A. In addition, about $12,000,000 is provided by the states to staff and maintain the stations. Remember, this is your bank, from which you can make withdrawals of real value any time you wish. Information is available on any subject relating to farming or ranching. Direct your request either to the Dept. of Agriculture, Washington 25, D. C., or to your own state college, state experiment station or extension service. If you do not have the address, ask your county agent or vocational agriculture teacher. Or write to us at Swift & Company, Department A-5, Chicago 9, Illinois.



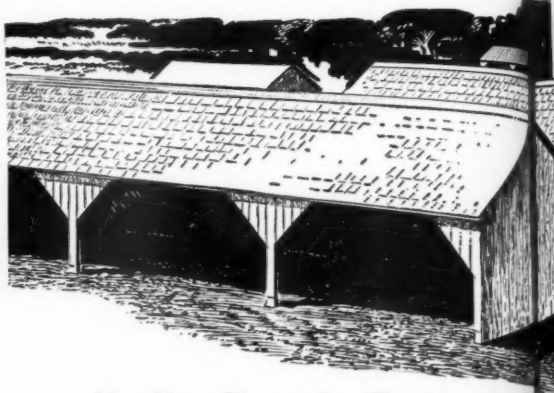
A Big Market of Little People

A new outlet for meat has been developed! Hundreds of thousands of "little people" in America, the babies of the nation, are now eating meat. Swift's Meats for Babies and Juniors are specially prepared for them. These new products give today's babies a better chance than ever before for robust health and full physical development.

The better the food, the better the baby! That's why doctors are so enthusiastic about Swift's Meats for Babies. They know that meat provides complete, high-quality proteins, the essential body-builders—iron, the blood-builder—and needed vitamins in *natural* form. They know, too, that these vital food elements in meat are most important when babies are young—actually building their bodies. And so, many doctors are recommending Swift's Meats for Babies and Juniors—strained for the very young and diced for older children.

This is but one example of the many ways Swift's research, distribution and promotion contribute to the nation's nutrition and build new markets for the products of your farm and ranch.

Mothers: if you'd like a free copy of a new informative booklet, "Meat in Your Baby's Diet," write Swift & Company, Dept. B-35, Chicago 9, Illinois.



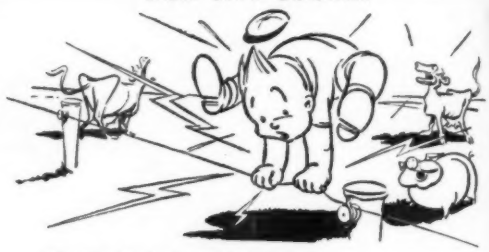
Martha Logan's Recipe for

BEEF GOULASH

2 pounds beef chuck	1 clove garlic
¼ cup flour	1 teaspoon dry mustard
3 tablespoons fat	2 tablespoons chopped parsley
1½ cups water	¼ teaspoon sage
1 tablespoon Worcestershire sauce	1 teaspoon caraway seed (optional)
½ cup celery leaves	1 teaspoon salt
¼ teaspoon pepper	

Cut beef into chunks and roll in flour. Melt fat in skillet. Brown meat well. Add remaining ingredients. Cover skillet and cook slowly for 3½ hours, or until tender. (Yield: 6 servings.)

OUR CITY COUSIN



City Cousin is shocked to see
How strong a one-wire fence can be . . . Wheeee!

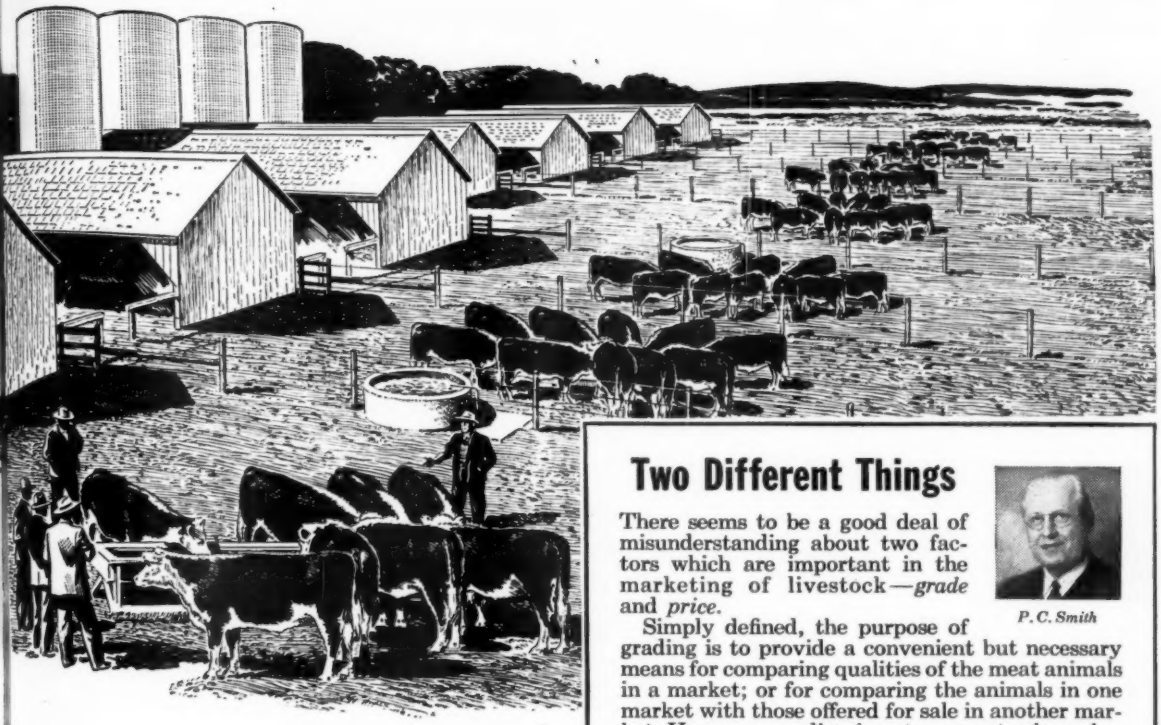
Things are NOT always as they seem

Which of the two shapes shown at left is the larger? The white one or the black one? The white one certainly appears to be bigger. But actually they are exactly the same size.

In the livestock-meat industry, too, things are *not* always as they seem. For example, sometimes people think of Swift's total profits as being large. Yet the actual *fact* is that in 1946 dividend payments to shareholders were less than 4% on the shareholders' investment; the company's net earnings from *all* sources were 1½¢ per dollar of sales . . . only a fraction of a cent per pound of product handled. That *seems* to be doing business on a mighty narrow margin—and it is!

Swift & Company UNION STOCK YARDS CHICAGO 9, ILLINOIS

When writing advertisers please mention *American Vocational Journal.*



SIZE OF BUSINESS

by J. L. Tennant
Rhode Island State College

J. L. Tennant

A farm business should be large enough to pay operating costs, interest on the investment, and family living expenses. A southern New England dairy farm, for example, should have at least 18 cows per man; a poultry farm, 1,500 layers; a market-garden farm, 10 acres; a potato farm, 40 acres; and an apple farm, 20 acres.

Doing more business with the same capital investment is one way to lower costs and higher profits. With the larger business, the operator can spend more of his time at productive work. For example, workers on a dairy farm with 9 to 10 cows per man will be just as busy as on a farm with 15 to 18 cows per man. The gross sales and net income on the larger operation will be much higher because more of the time is used in producing milk. Reducing costs per unit puts the farm operator in a stronger competitive position.

If more crop land cannot be bought, perhaps it can be rented. Another plan is to check means by which crop production *on present acreage* can be increased. Ways to do this include: the use of lime and fertilizer; winter cover crops; higher yielding varieties; double cropping; drainage and terracing.

Another step toward efficiency is to install modern equipment which enables one person to produce more per hour. Overhead costs per unit of product can be lowered when each machine is used profitably for as many hours as possible.

Two Different Things

P. C. Smith

There seems to be a good deal of misunderstanding about two factors which are important in the marketing of livestock—*grade* and *price*.

Simply defined, the purpose of grading is to provide a convenient but necessary means for comparing qualities of the meat animals in a market; or for comparing the animals in one market with those offered for sale in another market. However, grading is not an exact science because it depends to quite an extent on the judgment of the person doing the buying or selling. Grades are standards which take into consideration the sex, weight, quality, conformation and finish of animals.

Now, let's have a look at *price*. Price is *not* a factor in determining grade. Just because some animals are in a higher grade does not mean that they *always* will sell for a higher price than animals in a lower grade. For example, it happens at times that a medium grade of cattle sells for as much or more than a good grade. Such a condition may come about when there is a heavy demand for, but only a light supply of, medium cattle; while on the same day a big supply and a light demand of good grade cattle will not bring so high a price.

The same situation may exist in the case of lambs. In communities where racial customs affect eating habits, there are times when carcasses of lightweight, thin, lean lambs sell for as much as the fat, well-finished, choice type. Again the law of supply and demand is in action.

Always remember that price and grade are two different things. Try to think of each separately, and we believe you will have a much clearer and truer picture of grading and marketing of livestock.

P. C. Smith, *Vice President*
In Charge of Beef, Lamb, Veal

Soda Bill Sez:
. . . a feller that's wrapped up in himself generally makes a mighty puny package.

NUTRITION IS OUR BUSINESS—AND YOURS
Right Eating Adds Life to Your Years—and Years to Your Life

Audio-Visual Education

Virginia Reports on Visual Aids

EDITOR'S NOTE: *One of the first states to pioneer in the development of a state-wide audio-visual education program was Virginia. In March, 1946, C. W. Dickinson, Jr., director of school libraries and textbooks, State Board of Education, Richmond, Virginia, gave his first article on the state program to the AMERICAN VOCATIONAL JOURNAL. This month, just one year later, Mr. Dickinson gives us his second report.*
G.H.F.

SINCE October, 1945, Virginia State Board of Education has purchased for county and city public school boards (at a saving of $206,115.44 in discounts), 1,031 sound motion picture projectors, 876 silent motion picture projectors, 1,280 still picture projectors, and 2,519 classroom projection screens. The State Board of Education also purchased 247 opaque projectors, 631 electric phonographs, 92 auditorium screens, and spent $216,850 for motion picture films; $296,696 for maps, globes, charts, etc.; $5,675 for 2"x2" art appreciation slides; $33,630 for 35mm filmstrips; $14,465 for 2"x2" Kodachrome slides, and $5,114 for music recordings. Altogether, more than $1,000,000 has been spent in Virginia for audio-visual equipment and materials for use in the public schools in the last 15 months.

School administrators are now enthusiastic and energetic leadership is being shown in arranging in-service training of classroom teachers. State education supervisors and regional film library directors have been secured to conduct local and regional audio-visual institutes; many teachers have attended summer school and extension courses in audio-visual education offered in the state colleges. As a result of this teacher-training in the selection, use, and care of audio-visual aids, the administrative organization and procedures necessary for efficient use of such materials have been reorganized and accepted as a responsibility of the schools in order to assure effective use of all types of teaching materials.

Teachers realize that an enriched program of instruction is necessary and that all types of materials must be thought of in terms of improving instruction. Increasingly, classroom teachers are learning the techniques of instruction with all kinds of audio-visual materials, are being trained in the operation of various kinds of projection equipment, and are serving on preview and evaluation committees in local, county, and state organizations.

All types of teaching equipment and materials are kept in the library of each school to avoid overlapping and duplication and to make for an efficient and economical organization. When there is adequate physical equipment such as a reading-room, conference-room, a workroom with sufficient storage space, and a room for previewing purposes; when there are adequate materials such as books, periodicals, maps, charts, globes, recordings, filmstrips, slides, etc.; when

(Continued on page 28)

Utica, New York Film Exchange

THE visual aids program in Utica, New York, championed by Superintendent A. J. Burdick, gained impetus more than seven years ago when the Utica Film Exchange was organized. It is a film library owned and operated by Utica and neighboring schools, which now owns 200 reels of sound film that circulate constantly among 10 member schools.

The exchange is managed by S. W. Gerrish who recently was appointed full-time supervisor of visual education. Previously he had taught electricity in the Boys Trade School for 24 years and recalls that it was a Disney educational film on electricity that first impressed him with the possibilities of movies as a teaching tool.

At that time, Utica school system's visual aid equipment consisted of two old projectors and 25 reels of silent film. Gerrish asked if he could take charge of them. Gradually he built up the stock of equipment to its present level: two sound projectors in each of the high schools, one sound projector in each of four elementary schools, three portable sound projectors, and two portable silent projectors.

The film library, in addition to the films obtained from the Utica Film Exchange, U. S. Office of Education, State Department of Commerce, and various rental libraries, includes 15 reels of sound film, about 1,000 slides and 121 reels of silent film.

The Board of Education plans to place motion picture equipment in every school.

Mr. Gerrish instructs teachers in the operation of projectors and use of films.—*Condensed by Public Relations Dept. of Victor Animatograph Corp. from article in* UTICA POST DISPATCH.

S. W. Gerrish records teachers orders at Utica film library

A Work Shop Course in VISUAL AIDS

G. G. WEAVER
Supervisor of Industrial Teacher Training
The University of the State of New York

PEOPLE in the field of vocational education can take great pride in their glorious record achieved during the war years. It is very doubtful if the manufacturers of America could have attained their effective production schedules without the war training program conducted by the vocational schools. The experience of those years was new and varied and served as a great stimulus to vocational education. The old exercises were discarded for projects of utility, the generalities of objectives were transposed into specifics, and the pace of the teachers and supervisors was definitely quickened. There was marked cooperation between individual schools, different communities, as well as adjacent states.

Unfortunately, there are indications of a return to the tempo of the prewar years and a display of attitudes of satisfaction with the former status quo. One hears whispering of a different philosophy of vocational education which is neither sound nor new, but an adulteration of thorough occupational training by the introduction of an endless series of exploratory courses, tryout experiences, orientation programs, all under the intriguing label of guidance. It is feared by some well-thinking educators that such a multiplicity of experiences will lead nowhere vocationally and result in confusion on the part of students and parents. Many of the pseudo-philosophers would have us believe there is no longer a need for thorough trade instruction, that boys of high school age are too young to learn a specific occupation, and all this while America is suffering from a dearth of craftsmanship and international competition is being intensified. At the same time we are encouraging and giving material assistance to a strictly trade training program in countries south of the equator, which will establish ruthless competition with our American craftsmen.

THIS point of view, plus the generalized activities indicated, definitely "sell short" our vocational schools. Despite the omissions and commissions of the program, its results, particularly during the war, have been sufficient to secure passage, without a dissenting vote, the recent Federal legislation embodied in the George-Barden Act. This action was taken when Federal subsidy for general education was refused. We should be very cautious in accepting [illegible] as and academic discussion in lieu of specific and thorough vocational training that leads to definite and successful employment goals and sound citizenship.

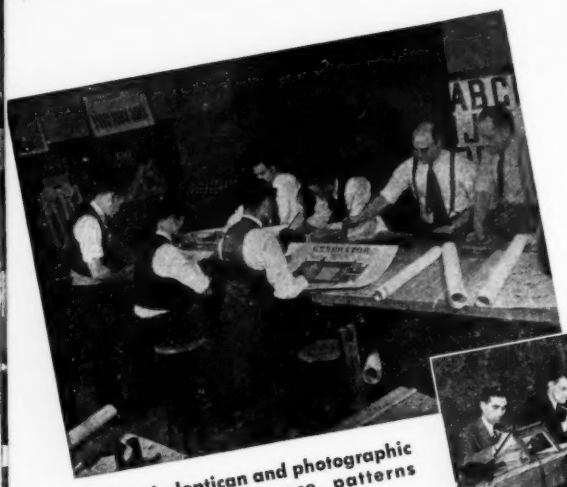
If some of the benefits and advances resulting from the war training program must be dispensed with, at least salvage the extensive development and experiences with teaching aids in the form of charts, models, mock-ups, baloptican and photographic blow-ups, slide films, motion pictures, and other visual teaching material. These ideas are not particularly new, but it required a war and its demands for immediate and efficient training to give new life and growth to these well-known techniques of instruction. The term "visual aids" is accepted by many persons as synonymous with motion pictures and slide film. The term means more than that—it means any supplementary teaching device that increases learning through the sense of sight. If teachers expect to improve their teaching by visual aids, their thinking must go beyond just film. There are many teaching situations in which a visual aid is most desirable but no film is available. In lieu of a film, a chart, a model, a mock-up or baloptican blow-up may render better service. If these aids are to be used, they must be developed and made by the individual teachers.

All teachers, and particularly vocational teachers, should be acquainted with and be able to operate projection equipment. They should also learn how to construct teaching aids from wood, metal, cardboard, plastics, and other media. The best teaching aid is the one for which a teacher feels a specific need and which is constructed to definitely fulfill that felt need. If what has been said is true, some provision must be made to provide the necessary opportunity for ambitious and conscientious teachers to learn the necessary skills to produce these needed items.

DURING the spring of 1944, consideration was given to this problem and a course was offered to help teachers help themselves in making teaching aids. It well deserved the label, "A Work Shop Course," because it was an all-doing course. The primary objective was to teach vocational teachers how to make teaching aids of various kinds with equipment that is found in practically all modern secondary institutions. It was not a course in the use of visual aids, as that instruction rightfully belongs in a course in methods of teaching.

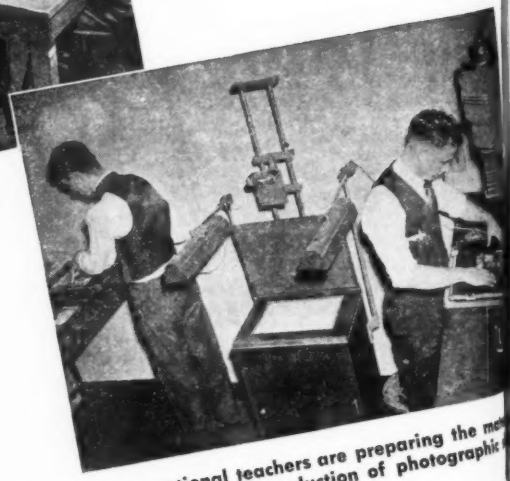
The first session of the course consisted of an overall discussion of visual aids, their necessity, use, and possibilities. It was decided that a good visual aid should possess the following characteristics:

1. It should explain an abstract idea, show a relationship, or present a sequence of procedure, that cannot be clarified without it.
2. It should be large enough to be clearly visible to everybody in the group. An aid is not an aid if part of the class cannot see it.
3. The lettering should be large and bold to avoid eyestrain from any point in the classroom. Avoid decoration and prevent distraction.
4. The amount of lettering should be limited to terminology within the comprehension of the learner.
5. The important parts should be accentuated by the use of spots of bright color. This emphasis on the essential parts will enhance the value of the aid.
6. It should be made to scale, whether reduced or enlarged. The various parts should be in proper proportion; otherwise the learner may be confused.
7. It should be constructed of good materials if it is to stand constant usage in the classroom.
8. It should show evidence of good workmanship, and be carefully finished in good taste.
9. It should be so mounted as to make it portable, which will permit its use in more than one location.

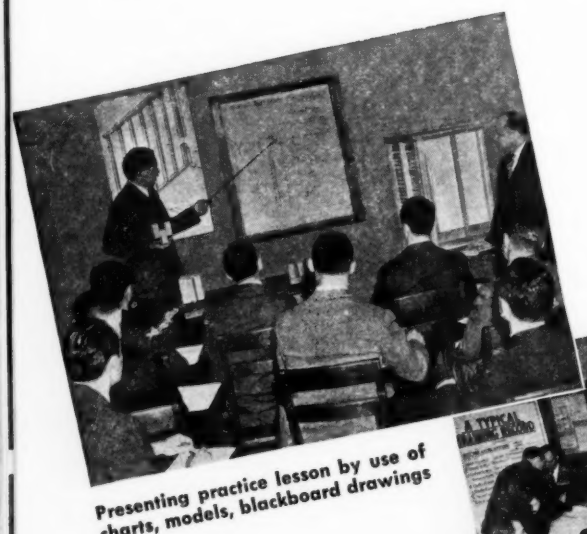


Making baloptican and photographic blow-ups and pounce patterns

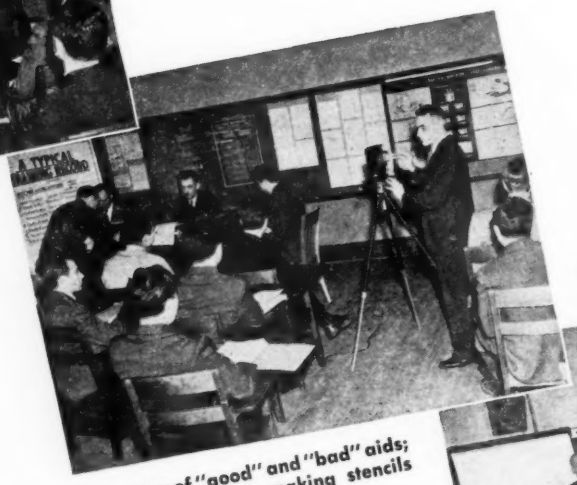
Mimeograph stencils, handmade slides and other aids made in course



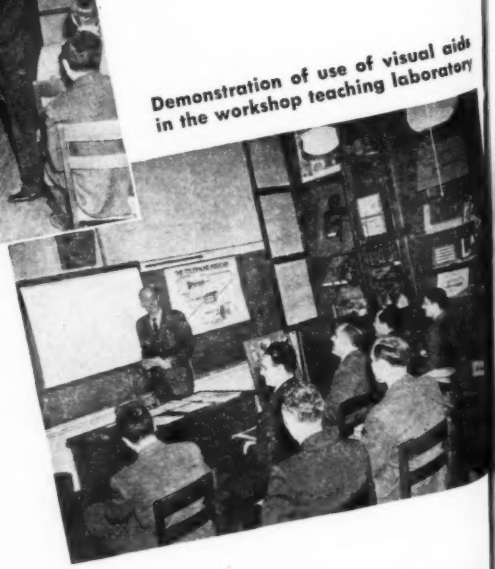
These vocational teachers are preparing the ma essential to actual production of photographic



Presenting practice lesson by use of charts, models, blackboard drawings



Discussion of "good" and "bad" aids; group, left rear, is making stencils



Demonstration of use of visual aids in the workshop teaching laboratory

10. Charts, drawings, and photographs should be properly protected with paint, shellac, glass, cellophane, or other protective materials.

During this period of orientation many teaching aids were displayed to impress the importance of these characteristics. The students were exposed to "good" and "bad" aids in order that they be cognizant of the strong and weak points of materials used to aid student learning. After this rather brief introduction the members of the group were assigned to the making of teaching aids under a group of specialists. In all cases, the things produced were useful in teaching the trade subject of the individual who made them. Arrangements were made for 60 clock hours (two credit hours) of work in the following activities:

1. The making of mimeograph stencils requiring the use of a variety of styli and background plates—plus the running of 25 copies on a mimeograph machine. Two periods of two hours each were alloted for this purpose. Each member of the group was requested to bring to class the copy for which stencils were desired.

2. The next project was the making of handmade slides (3¼ x 4) with the use of lead pencil, crayon, paint, and cellophane. Again, the slides were for use in the subject taught by the person who made them. To this activity were allocated two periods of two hours each.

3. Following the making of handmade slides, instruction was given in the production of photographic slides (2 x 2). In this case, the student brought to class a plan for the teaching of a lesson that required six to eight slides for adequate presentation. Each student "shot" the negatives, made his positive, and finally bound the film in a "sandwich" for projection. Two periods of three hours each and one period of two hours (total: eight hours) were devoted to this work.

4. The next activity was the construction of a working model, mock-up, or an enlarged or reduced aid from the necessary material, such as plastic, wood, plaster, metal, or sheet metal. Instruction was given on the proper type of construction, materials to be used, the mounting, and painting. Each student, after a preliminary discussion, made his own design for suggestions and criticism or approval of the instructor. The actual making was done at home and later the project was brought to class for suggestions and instruction on painting. This phase of the course was given for four periods of two hours each. There was an interim of time between the instructions on making and the final finishing and display. During the intervening weeks, other phases of the course were completed.

5. The concluding activity, included a number of projects, all of which required paints and colored chalk. The following list of projects was completed.

a. Coloring a commercial black and white chart. The purpose was to show the effectiveness and appeal of color by taking a rather commonplace chart and transposing it into an attractive visual aid.

b. Making a baloptican or opaque projected blow-up in the form of a safety cartoon. It provided an excellent opportunity for initial use of paint and brushes on relatively large areas. The safety poster referred to some hazard existing in the trade of the student who made it.

c. Making a second baloptican blow-up of a line drawing to be painted in contrasting colors. The short cuts of the commercial artist were taught in connection with this project. The job required more careful work than the preceding blow-up due to broken-up surfaces, intersections of lines and smaller parts.

d. Painting a photographic blow-up. In this case the student selected a small cut or picture that could not be blown up with the baloptican, due to its complications. The small original was sent to a professional photographer, where it was blown up or enlarged 10 to 20 times. When it was returned to the school, it was mounted and painted in attractive colors to accentuate the desirable points as an aid to teaching.

e. The final project and one of particular value to a teacher was a pounce pattern for use on the blackboard. This technique of blackboard drawing is particularly valuable to the teacher who finds it necessary to place the same sketch on the blackboard several times throughout the year. In this case, the small line sketch was enlarged by projecting it on a large piece of wrapping paper of good grade. The lines were traced on the paper, after which a dressmaker's wheel was run over the lines and thus the paper was perforated. The pattern was then ready for use and was attached to the blackboard by a small piece of scotch tape at each corner. A small bag of pounce or a blackboard eraser saturated with chalk dust was gently patted over the perforated lines. Within two or three minutes the lines were transferred to the blackboard. Heavy lines were traded over the dotted lines and colored chalk added to emphasize certain parts of the drawing. This procedure permitted the placing on the blackboard, within relatively short time, a rather intricate drawing, thus saving the teacher's time. The paper pattern was rolled and placed in a mailing tube until it was further needed.

THIS course was enthusiastically pursued by the group of students and has been repeated several times since the original offering. Beyond the immediate profit and pleasure of the students and the things they made there were further beneficial outcomes.

1. Their interest carried over to the schools and many additional teaching aids were developed.
2. The colleagues of the people enrolled in the class were stimulated to develop visual aids for their work.
3. The appreciation and use of color in teaching aids was definitely established.
4. Visual equipment that was purchased but unused in the schools was rejuvenated.
5. Teachers purchased at their own expense, projectors for slide film.
6. Dark rooms that had become musty with misuse were aired for action.
7. Homemade opaque projectors were made.
8. The teachers became "visual aid conscious" and explored further sources of teaching aids by contacting film distributors, examining the catalogs of manufacturers for models and laboratory teaching devices, and making special arrangements in their shops and classrooms for display and storage of visual teaching devices.
9. Supervisors became interested and made budgetary provisions for the purchase of additional projection equipment.

IN conclusion: The work produced by the students in the original course was tangible evidence of the fact that people without any previous experience can produce visual aids for their own individual needs. The quality of work was far beyond the anticipations of the instructors and of the students themselves. The success of the work may be attributed to the conscientious efforts of the students and the expertness of the various instructors. This initial course has been followed by succeeding groups that met with equal success. Teachers and prospective teachers need not only this type of course but also one that involves specialized techniques of using teaching aids particularly motion picture and strip film and the efficient operation of varied projection equipment.

Audio-Visual Education

Virginia Reports on Visual Aids

(Continued from page 24)

there is a trained librarian who is interested in developing an integrated program of instruction and in rendering the best possible library service; and when there are teachers eager to improve instruction by enriching their program through the use of all kinds of teaching materials; there will result a more vital public education system.

In Virginia this organization of audio-visual aids begins in the individual school with the librarian (or some other faculty member if the librarian is not available) responsible for the effective integration of the curriculum through the acquisition, care, distribution, and utilization of all kinds of materials. She orders, receives, and returns borrowed materials for all teachers and cares for locally-owned materials. She trains teachers to operate projection equipment and works out a system for circulating both equipment and materials. She, as well as the principal, encourages good utilization procedures and facilities within the school.

There have been established in 72 counties and cities, with state funds, libraries of films for use in the public schools of these divisions and regional film libraries at Farmville State Teachers College, Madison College, Radford College, and the University of Virginia. Each regional film library serves a specific section of the state. The directors of these regional libraries head committees of the faculties which assist with film evaluations and selections and visit schools which ask for assistance.

The state film library, known as the Bureau of Teaching Materials, is part of the Division of School Libraries and Textbooks of the State Department of Education. Its principal function is the stimulation of increased and improved utilization of audio-visual instructional materials in the schools by serving as a regional film library; by evaluating new materials and equipment to be included in approved lists distributed to school divisions; by distributing films not available in the 72 local or four regional film libraries; and by assisting school divisions with problems relating to organization for the distribution, care, and utilization of audio-visual equipment and materials.

With audio-visual materials reaching more and more school libraries there is an enriched and integrated curriculum with promise of continued growth through the effective use of all types of teaching materials.—*C. W. Dickinson, Jr., Director, School Libraries and Textbooks, State Board of Education, Virginia.*

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NEW IN THE AUDIO-VISUAL FIELD

The Library of Congress Motion Picture Division has issued its first list of films available to the educational field. The Division offers an informational service which will include development of lists, catalogs, bibliographies and other reference and research tools to eliminate delays. If the Library does not possess a desired film it will undertake to secure information as to where it may be obtained. It will distribute or allocate excess prints of Government films transferred to it, and plans arrangements for providing films that are eligible for general use at a reasonable cost to users.

Controlled coating, an exclusive feature originated in the Lincolnwood laboratories of Bell & Howell, of Chicago, assures both photographer and projectionist that the coating on a lens is as hard as the glass itself and has the correct thickness, or color, for maximum light transmission and anti-reflective properties. Superior performance and unexcelled durability distinguish the camera and projection lenses being supplied with Opticote lens coating, the company claims.

Ampro Corporation of Chicago announces a new sound-on-film 16mm projector, compact and easily portable for home use, as well as for classrooms, industry, and average-sized auditoriums. It is the "Premier-20" and one of the features is the swing-out gate which permits easy inspection and cleaning of aperture plate and pressure shoe without disturbing the focus of the projection lens.

Electro-Voice, Inc., Buchanan, Mich., have a new Model 505 Crystal Microphone which offers both durability and attractive appearance. Frequency response is substantially flat from 50-7500 c.p.s. Output level is -54 db. The polar pattern is non-directional at low frequencies becoming directional at higher frequencies.

The New Golde Air-Flo Stereopton offers extra efficiency and ease of operation, and has motor driven, forced air cooling to reduce operating temperature, thus lengthening the life of slides and lamp. The blower is quiet. It takes up to 1000 watt lamps.

(Continued on page 30)

A NEW SLIDEFILM KIT THAT SIMPLIFIES *teaching learning* IN SHOP WORK COURSES

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Lighted Pictures

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These 761 pictures are designed to help high school and trade school teachers present a well-rounded and easily-understood course in engine lathe work. This new kit of Jam Handy slidefilms covers the basic operation of the engine lathe. Safe operations are shown clearly.

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Audio-Visual Education

(Continued from page 28)

The Visual Demonstrator, transparent third dimension presentation of the new LeBlond Dual Drive lathe, is available to industrial arts and vocational schools as well as colleges and universities from LeBlond Machine Tool Co., Cincinnati, O. The book is printed in a process which enables the reader to disassemble and assemble the lathe piece by piece. It practically x-rays the lathe in three dimensions and presents a much sharper conception of lathe design, construction, and maintenance than previously possible. The text matter is keyed to the illustrations, and the complete result is said to be more revealing than blueprints, photographs, charts, or printed instruction manuals.

Castle Films Division of United World Films, Inc., New York, has a new catalog of films available for school and industrial training purposes. There are now 730 sound motion pictures on 16mm film and 585 filmstrips for 35mm slidefilm projectors designed as aids in teaching a great variety of subjects. Castle Films are distributors of U. S. Government visual aids, and the catalog lists those produced by the U. S. Department of Agriculture, U. S. Office of Education, U. S. Navy and War Departments, U. S. Public Health, Civil Aeronautics and Veterans Administrations.

The new Victor Model "60" is announced by Victor Animatograph Corp., Davenport, Iowa. The projector is housed in aluminum cases and has many mechanical improvements. It is a multiple-purpose unit for use with

either sound or silent film and includes jacks for use with a record player or public address system. It includes reverse operation and has the advantage of still picture projection.

Optron, Inc., Chicago, Ill., have their catalog of new models and price list for the current year now available. Items upon which immediate delivery can be made are so indicated and include Model SRC-1-S, TD-16 and TD-16-A, and DS-4.

FILMS

Crude Oil Distillation, explaining how crude oil may be broken down into its component parts by fractional distillation. *Harnessing Liquids,* explains the principle of hydraulics and demonstrates many of its applications. *Lever-Age,* deals with man's use of the principle of the lever through its many refinements. *Lubrication of a Gasoline Engine,* shows how the simplest forms of power illustrate the basic problem of friction. 16mm sound.

All obtainable for free bookings from Shell Oil Co., Inc., 50 W. 50th St., New York 20, N. Y.

Arranging the Tea Table, showing what should go on the tea table, where, and why. **Arranging the Buffet Supper,** showing correct choice and proper placement of food and service. **The Blooming Desert.** All 16mm sound and color, purchase or rental, Simmel-Meservey, distributed by Stanley Bowmar Co., New York 23, N. Y.

Printing, The Librarian, Fire and Police Service, Air Transportation. 16mm sound, 35mm silent film strips. $50.00 per reel less discount. Carl F. Mahnke Productions, Chicago, Ill.

These are the latest in the "Your Life Work" job information films.

As You Like Them, depicting hot water bath and pressure cooker methods of home canning. **Good Grooming,** good habits, good health, good taste, and good make up. **The Turning Point,** importance of ball bearings in all types of vehicles and fast-moving machinery. **Lifeline of the Nation,** story of American railroads. **The Way to a Man's Heart,** information on proteins, calories, minerals, vitamins, in foods in the daily diet. **Ever Since Eden,** authentic story of the tomato. **Meat and Romance,** how to buy, cook, and carve meat and the nutritional values of many foods. **Yesterday, Today, and Tomorrow,** history of the preservation of food. 16mm sound motion pictures. Free from Castle Distributors Corp., New York 20, N. Y.

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The Secretary's Day, 16mm sound, color or black and white. Coronet Instructional Films, Chicago 1, Ill.

Shows difference between work of a stenographer and a secretary.

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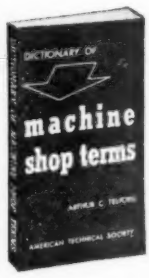

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Careful preparation for any job adjustment follow-up plan will help both graduate and employer to see its practical value, and a spirit of mutual cooperation essential to the success of the undertaking is more likely to result.

In the preparation of students there are three main steps. First, develop a functioning work habits and attitudes program. Secondly, assign specific teachers the duty of teaching the objectives of the job adjustment program. Discussion of items on the job adjustment sheet should be held; problems on factors which make for successful or unsuccessful job adjustment should be prepared for class discussion; specific on-the-job successes and failures should be analyzed; the values of good cooperation between the school and industry discussed; and problems centered about the specific value and importance of the program to the graduate should be prepared. Third, invite industrial personnel officers or supervisors to discuss the value of the program from an industrial viewpoint.

The following suggestions may prove helpful when initiating the program:

Arrange a personal placement of the graduate in the job situation. Introduce him and his training background to the employer. Utilize resume sheet during the conference. Stress these facts: The school knows and the graduate knows that he is not a finished worker. The school very definitely is interested in the graduate and wants to know whether he is satisfactory or unsatisfactory and why. After a reasonable work period (two or three months) the school would appreciate the cooperation of the graduate's immediate superior in filling out the job adjustment sheet. Go over the job adjustment follow-up plan very carefully and leave samples of the sheets so that employers may study them and offer constructive suggestions and criticism. Check graduate's job adjustment every three months during the first work year and every six months thereafter for at least two years.

Explain benefits of job adjustment follow-up to employers: The school assists and works with industry and business in adjusting the employee to the total job situation; provides upgrading or specific training necessary to make a better job adjustment; having had a longer, a more personal contact with the employee may be able to provide the extra spark so often necessary for successful job adjustment; and expensive turnover should be materially cut through this cooperative job adjustment follow-up program.

Time and effort spent in this direction should produce desirable results. —*Albert E. Jochen, Director, Middlesex Vocational Schools, New Brunswick, N. J.*

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Students know that a coordinator must have had previous experience in business. They respect her judgement and bring their problems to her. Classes are small, giving opportunity for personal attention. Too few employers and teachers realize that home problems and misunderstandings are the most frequent source of job inefficiency.

This is the fourth year of office practice in Wichita High School East, yet members of the first year's class still seek counsel on many questions.

Many phases of the work could be stressed: financial aid to students, good will between school and business, etc., but most important is the opportunity to guide young people who choose an office work career.—*Nelle S. West, Coordinator, Wichita, Kansas.*

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Washington Reporting

H.R. 220. To establish a U.S. Commission for Physical Fitness and make an appropriation. To *Education and Labor.*

H.R. 668. To authorize transfer of buildings, equipment, and lands built or acquired with Lanham Act funds for educational or recreational purposes by the Government to the school districts where located, provided the districts agree to use the buildings and equipment for purposes for which they were built or acquired. *To Public Works.*

H.R. 942. To promote progress of science and useful arts, to secure national defense, to advance national health and welfare. To *Interstate and Foreign Commerce.*

H.R. 1760. To amend the National School Lunch Act with respect to apportionment of funds to Hawaii and Alaska. *To Education and Labor.*

H.R. 1762. To promote the general welfare through appropriation of funds to assist the States and Territories in providing more effective programs of public education. *To Education and Labor.*

H.R. 1775. To provide additional funds for the fiscal year 1947 to enable the Secretary of Agriculture to carry out provisions of the National School Lunch Act. *To Education and Labor.*

H.R. 1803. To promote the general welfare through appropriation of funds to assist the States and Territories in providing more effective programs of public education. *To Education and Labor.*

H. Res. 73. Urging an immediate international agreement to eliminate compulsory military service from the policies and practices of all nations. *To Foreign Affairs.*

S. 5. To provide adequate aeronautical training for youth. To *Interstate and Foreign Commerce.*

S. 452. To authorize the transfer without charge to the States and political subdivisions thereof, of any interest of the U. S. in public works acquired under the Act of October 14, 1940, as amended. *To Public Works.*

S. 472. To authorize the appropriation of funds to assist the States and Territories in financing a minimum foundation education program of public elementary and secondary schools and in reducing the inequalities of educational opportunity through public elementary and secondary schools for the general welfare. *To Labor and Public Welfare.* (Introduced by Senator Taft for himself and Senators Thomas, Ellender, Hill, Smith, Cooper, Chavez and Tobey.)

Machine Shop Methods

(Continued from page 15)

quality was emphasized. After repeated performances on the same operation he was required to show satisfactory speed before he was assigned a new operation. Had the student been assigned to the performance of only one operation, then moved on to the next, his speed and accuracy would have been developed very slowly. He would have been spending too much time on set-up at the expense of skill in the operation.

Some outside jobs are accepted, but these are carefully selected for their training value.

Upon graduating from such a course, students are not mechanics nor even apprentices, but under such a standardized plan they should be given recognition for their practical and scientific application to one of the most exacting of all skilled trades.

These methods have been used in an intensive training course of machine shop operations and related training for on-the-job training of veterans, with approximately 170 hours, and results were excellent. Knowing what to do, why it is done, and how to do it brings good results.

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The Vocational Outlook

★ The Electronic Department of General Electric is experimenting with radios for aircraft flying at altitudes of 15 miles.

★ A new electric control system can bring a 5-ton load to a stop from a drop of 150 feet a minute.

★ Kansas Future Farmers exhibited farm equipment made of parts salvaged from worn out farm machines in farm shops in vocational agriculture departments, at their Kansas State Fair last year. One hundred machines were displayed by members of nine chapters.

★ Nearly every indentured apprentice in Kansas attended one or more of 31 short units of related instruction organized by the public schools and joint apprentice training committees in cooperation with the State Board for Vocational Education. An effort is being made to interest veterans in on-the-job training in organizing similar groups for related instruction.

★ Dodge City, Kansas, has obtained three quonset huts for new shop courses in auto mechanics, machine shop, and farm shop. A half million dollar bond issue was voted for a new building but construction delays necessitated temporary measures. In Augusta, Kansas, the general metal shop space was doubled and the new brick structure houses the auto mechanics shop also.

★ Whitehaven, Tennessee FFA chapter cleared more than $800 from a chapter greenhouse which was reopened this past year for the first time since the war. The greenhouse is used to provide laboratory work in soils and insect control as well as produce flowers and vegetable plants for the area.

★ In order to erect a new grade and high school building, citizens of Pacific, Mo., gave their notes for $8,000, bought a 20-acre tract of land, set aside seven acres for the school site, platted and sold the remaining 13 acres for $11,000. The streets in the new High School Addition are to be named for local men who died in World War II.

★ The industrial education section of Missouri State Department of Education has furnished each trade school machine shop which has the required equipment to complete the project, with blueprints and job procedure sheets for a bench drill press, complete in every detail. More production projects are to be developed for machine shop classes.

★ A safety and job training program for rural electric cooperatives in Missouri is being co-sponsored by the trade and industrial section of the State Department of Education and the cooperatives.

★ Louisiana State Department of Education has been allocated $90,699 by the Veterans Administration for the employment of district, area, and state supervisors of on-the-job training programs. All establishments approved prior to October 1, are to be reinspected and recertified and new training programs supervised.

★ M. D. Mobley, state director of vocational education for Georgia, and F. D. Farrell, president emeritus, Kansas State College, have conducted a study of the question, "What are the present needs of the State of California for agricultural education at all levels—quantitatively and geographically—and what should be the division of responsibility for such education among elementary and secondary schools including junior colleges, state colleges, technical schools, and Universities?" The study is sponsored by the State Board of Education and the State Board of Regents.

★ Joseph R. Strobel, state director of vocational education for Ohio, spoke on "The Relation of Vocational Education to the Total School Program," at a Town Hall meeting at the Dayton Art Institute, commemorating the birthday of Benjamin Franklin which is annually observed by Printing Education Week. The meeting, sponsored by the Dayton Club of Printing House Craftsmen, included a panel of labor, industrial, civic, and educational leaders for the discussion period.

★ The 1947 Office Equipment Exhibit will be held in the Cincinnati Music Hall May 25-28, in connection with the 28th international conference of the National Office Management Assn.

★ A series of conferences was held during February at the four state universities and colleges in Indiana to clarify the needs of vocational education and to plan programs and formulate policies in harmony with the vocational education Act of 1946.

★ The New England Textile Foundation is conducting a campaign to raise $250,000 per year for the next four years for the textile schools of New England.

★ A fully automatic telegraph code writer has been developed by Selectograph Co. which will send perfect telegraphy in any code from two to 60 words per minute.

★ The year 1946 saw an increase over the preceding year of 10,756 apprenticeship programs in American industry—from 5,818 to an all-time high of 16,574.

FFA TOURS

Inspection tours of large industrial plants, visits with some of the nation's leading business men, and a meeting with executives of the Boy Scouts of America were among highlights of a two-week tour made by national officers of the Future Farmers of America.

Starting in Chicago January 8, the FFA leaders visited Detroit, Akron, Washington, D.C., New York City, and Philadelphia. In Washington they invited Secretary of Agriculture Clinton P. Anderson and Ambassador Lord Inverchapel and a group of British farm boys, to attend their national 1947 convention.

Special luncheons and dinners were given for them in each city and points of major historical interest were visited.

Meeting with Boy Scouts of the Greater New York Area, FFA national officers discussed problems facing rural and city youth. Closer cooperation was felt to be mutually desirable.

School Lunch

(Continued on page 11)

for teaching courtesy, social responsibility, table etiquette, cleanliness, new food habits, and nutrition are innumerable.

The worth of the program can be enhanced if administrators keep sight of its aims and goals. In Utah, the following objectives have directed thought and action: (1) to provide nutritionally balanced and well-cooked school lunches; (2) to develop desirable food and eating habits in children and youth, and indirectly to improve food habits of all members of the family; (3) to develop an appreciation and understanding of the nutritional need of varying ages of individuals; (4) to develop habits and appreciation of cleanliness and knowledge in the matter of selecting, storing, preparing, and serving food; (5) to improve the general health of the school-going population through such measures as can be appropriately taught; (6) to provide through the eating of food, a learning situation by which the child gains educational and social experiences; (7) to provide for the child such school lunchroom facilities as are necessary to create and develop an appreciation for a quiet, clean, happy, and peaceful environment while eating.

The big challenge now is to keep 340 school lunches in Utah all moving in the same direction. There is great need for better equipment to improve sanitary conditions and increase efficiency within the units. This year in Utah, 48,000 children are dependent on school lunch and the number is increasing steadily. This means more trained individuals will be needed in the program.

Through the state workshops, regional meetings, and successive visits to all school lunch units, the program is unified in effort toward its basic objectives and effective procedures. From year to year, numerous lessons have been learned which help build a permanent structure.

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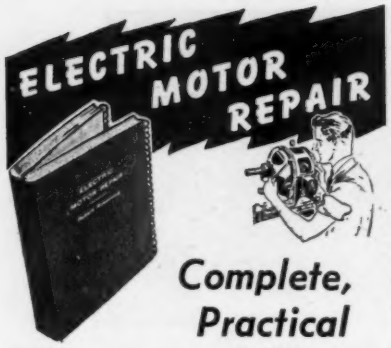

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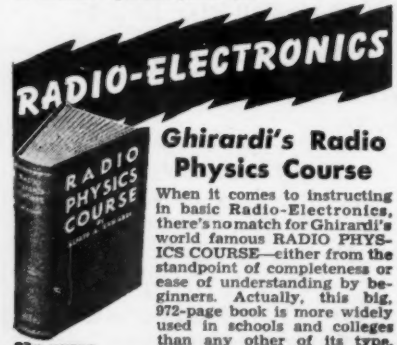

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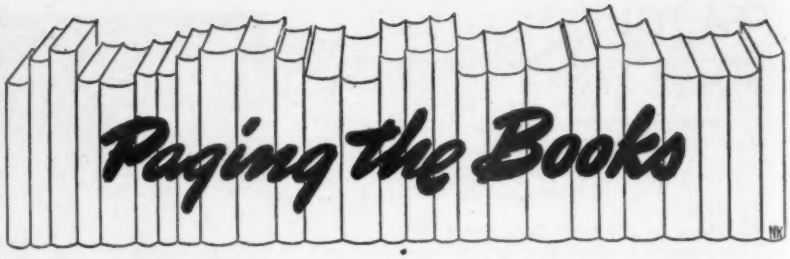

BOOKS

Agriculture

Elements of Soil Conservation, by Hugh Hammond Bennett. The McGraw-Hill Book Co., New York 18, N. Y., 1947. 406 pages, $3.20.

A clear, comprehensive presentation of problems of soil erosion and soil exhaustion, and tested methods of solving these problems through modern soil preservation techniques.

Raising Turkeys, Ducks, Geese, Game Birds, by Morley A. Jull. The McGraw-Hill Book Co., New York 18, N. Y., 1947. 467 pages, $2.80.

Up-to-date information on all phases of raising turkeys and many other fowl including certain wild birds, and conservation of wild upland and aquatic game birds.

Guidance

Opportunities in Finance, by Sam Shulsky; *Opportunities in Travel*, by Don Short; *Opportunities in Fashion*, by Alida Vreeland; *Opportunities in Interior Decoration*, by Suzanne Conn; *Opportunities in Horticulture*, by C. Owen Brantley; *Opportunities in Market Research*, by John Platten, Jr.; *Opportunities in Export*, by Albert L. Abkarian. Vocational Guidance Manuals, Inc., New York 19, N. Y., 1947. Each $1.00.

The books discuss both favorable and unfavorable aspects of the fields, educational requirements, how to get started, salaries, advancement, and related fields.

Home Economics

Your Marriage and Family Living, by Paul H. Landis. McGraw-Hill Book Co., New York 18, N. Y., 1946. 373 pages, $2.20.

The book deals directly with the personal problems of young people, not only in family relations but in dating, courtship, and marriage.

Industrial

Radio's Conquest of Space, by Donald McNicol. Murray Hill Books, Inc., New York, N. Y., 1946. 374 pages, $4.00.

The story of the men whose skill and imagination produced inventions and refinements that have made radio a vast peacetime industry and a formidable wartime weapon, is told entertainingly, including some technical data.

Chemistry for Our Times, by Elbert Cook Weaver and Laurence Standley Foster. McGraw-Hill Book Co., New York 18, N. Y., 1947. 738 pages, $2.48.

This is a basic first book for high school students of chemistry.

Aircraft Drafting, by H. H. Katz. Macmillan Co., New York 11, N. Y., 1947. 386 pages, $5.00.

Covers all basic techniques using hundreds of detail drawings.

The Production and Properties of Plastics, by S. Leon Kaye. International Textbook Co., Scranton, Pa., 1947. 602 pages, $4.00.

A detailed and technical treatment of the development, chemistry, properties, testing, design of plastics.

PAPER COVERS

Establishing and Operating a Bookkeeping Service. Field Offices of the Department of Commerce or Superintendent of Documents, Washington, D. C., 15¢.

Occupational Briefs on America's Major Job Fields. Science Research Associates, 228 S. Wabash Ave., Chicago. 1946. 4 pages ea., 15¢ ea.

No. 151, Fashion Designers; No. 153, Building Contractors; No. 155, Horse Breeders and Trainers.

Making Things is Fun, Handcraft Series, Book One and Book 2, by Susan E. Boehmer and Chris H. Groneman. The Steck Co., Austin, Texas, 1946. Book One, 30¢; Book Two, 45¢.

Drawings, photographs, and simplified directions make these books easy to follow, step by step.

Exploring the Industries, by Chris H. Groneman and E. L. Williams. The Steck Co., Austin, Texas, 1946. 160 pages, 70¢.

Basic material for a general shop course or complete material for a laboratory of industries course is presented in understandable manner.

Occupational Therapy, A Pioneering Profession. American Occupational Therapy Association, 33 W. 42nd St., New York 18, N. Y.

A Guidance Handbook of Books and Pamphlets, Periodicals and Services, Tests and Records. Science Research Associates, Inc., Chicago, Ill.

Planning and Equipping School Lunchrooms. Superintendent of Documents, Washington, D. C. 10¢.

The Livestock and Meat Packing Industry, Deane W. Malott and Boyce F. Martin. (Reprinted courtesy of McGraw-Hill Book Co., Inc.); *The Story of Meat; Cuts of Meat*, Research Bulletin No. 3; *About Wool; Refrigerator Cars Used by Swift; Cattle By-Products; Cuts of Meat*, Research Bulletin No. 7; *Food Values in the Diet; Swift & Co., a National and Local Organization; Swift & Co. Booklets; Agriculturally Speaking*, Research Bulletin 24 and 25. Swift & Co., Chicago, Ill.

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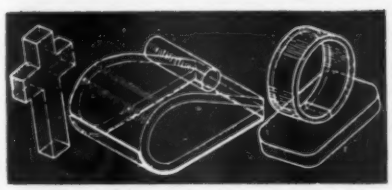

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Institutes

(Continued from page 21)

institute students, both men and women. It is hoped that soon additional training will be offered for women in the field of homemaking.

Summarizing: Through the development and expansion of opportunities for training on the high school level for unskilled and semi-skilled occupations, and with the opportunities offered on a post high school level in the institute program for training for more skilled and technical positions, together with education for home and family living, it is believed that the opportunity to receive training for a satisfying and useful life is offered to a large number of youth in New York State.

New Mexico

(Continued from page 9)

to her business experience, said: "I find the majority of business men are aware of the advantages of training and willing to cooperate. One wanted to send older sales persons to the course. I like the supervision and counsel, and enjoy the follow-up work and contacts outside the classroom. We have two classes in cooperative retailing with an enrollment of 46. At the close of last year each interested junior filled out a questionnaire and from the information a pre-selection was made for new students to start this year. By October we had placed 41 in training jobs. Several needed more technical training before going into stores."

Portales is a locality of workers in agriculture and business. J. M. Metcalf, an ex-member of the faculty just returned from the Army, writes: "The program offers great opportunity for a teacher to help students get started in an occupation and gives the coordinator a fine opportunity to become better acquainted with the city. We have 30 students, all of whom wanted this first course because of their interest in salesmanship. We closed the enrollment at 30, giving seniors first choice. Juniors will have an opportunity to enroll next year. Wherever possible, employers have taken more than one student."

The other new coordinator-teacher is Mildred Martens in Las Vegas, who volunteered to conduct a class in order to get it started. She would like to develop cooperative office practice work. The school opened the secretarial courses to juniors for the first time this year, and next year some will be ready for advanced work.

At least a dozen other systems in New Mexico eventually can support a distributive education program and six superintendents are seeking qualified persons to start the work. Several new teachers are in training at the University and others have written from outside states for information. Lester Hitchens, newly appointed state director of vocational education, is anxious to develop this, as well as all other programs, and with the support of both the State Department and the University, the program should expand rapidly.

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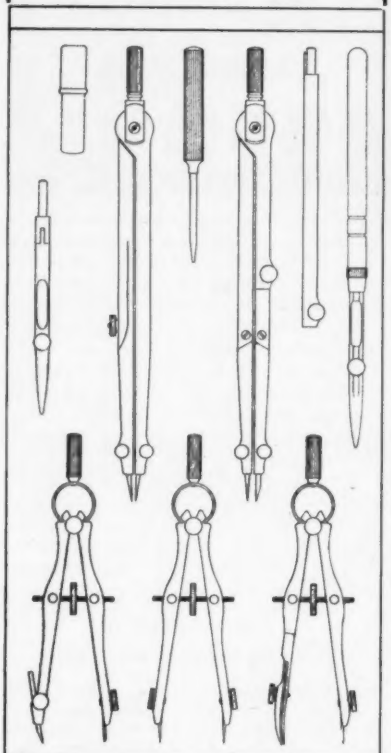

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● Wisconsin Vocational Directors' Association made L. H. Dennis, executive secretary of the American Vocational Association, Inc., an honorary member of their 25-year club, at the banquet of the 1946 convention of the AVA in St. Louis in December.

The club was organized by A. M. Bleyer, director of the Oshkosh Vocational School and is open to all directors of vocational schools in Wisconsin with 25 years or more of service.

Members of the club are A. M. Bleyer, R. J. Carver, Carl Christensen, John B. Coleman, O. J. Dorr, G. J. Ehart, H. O. Eiken, A. R. Graham, Rudolph Hansen, E. A. Holm, A. A. Kruschke, O. B. Lindholm, A. G. McCreary, E. F. Randall, T. S. Rees, G. W. Schefelker, W. A. Sprise, B. C. Trueblood, A. G. Western.

At the banquet, Mr. Dennis was presented with a desk pen set.

● Indiana Industrial Educational Association will hold their spring meeting at Turkey Run State Park, Marshall, Ind., April 17, 18, and 19. The topic is, "A Forward Looking Program for Industrial Education."

● Officers of the New Mexico Vocational Association, elected at the annual convention in Albuquerque, are: President, William B. Runge, University of New Mexico; vice president, Mrs. Naoma Norton, State Department of Vocational Education; secretary-treasurer, L. C. Dalton, State Department of Education.

● New Hampshire Vocational Association is publishing a mimeographed "News of Vocational Education." Byron Berry, State Trade School, Manchester, is president this year. Mr. Berry was the first secretary of the N.H.V.A.

● Texas Vocational Association will meet at Hotel Texas, Fort Worth, April 3, 4 and 5.

● Officers of the National Association of State Directors of Vocational Education are: President, Robert Cammack, Alabama; vice president, Ernest Simon, Illinois; secretary-treasurer, H. G. Halstead, Washington; members of the executive committee: L. H. Wood, Iowa; Watson Armstrong, Kentucky; Ralph Kenck, Montana.

● National officers of Iota Lambda Sigma, professional fraternity of Industrial Education, were elected at the St. Louis AVA convention. Charles P. Parsons, Chattanooga, Tenn., is president; B. R. Turner, Columbia, South Carolina, vice president; Clyde H. Wilson, Knoxville, Tenn., secretary-treasurer; George H. Resides, State College, Pennsylvania, historian. Mr. Resides retired as secretary-treasurer after 25 years of service and was presented with a gift. Speakers at the meeting were L. S. Hawkins, chief, trade and industrial education, U. S. Office of Education, and R. W. Gregory, U. S. commissioner for vovational education.

● The combined vocational luncheon of South Dakota vocational groups was held at Sioux Falls at the S.D.E.A. meeting. It was decided that officers of the Combined Vocational Group will hold office for two years and the following schedule will be observed: President of the Trade and Industrial Association will be president of the Combined Vocational Group through the 1948 meeting; president of the Home Economics Group will be vice president for the same period; president of the Agriculture Teachers' Association will be secretary.

Convention Calendar

Alabama Vocational Association, March 27-28.

Illinois Vocational Association, April 10, 11, 12; Hotel Pere Marquette, Peoria, Ill.

Indiana Industrial Education Association, April 17, 18, 19; Turkey Run State Park.

Massachusetts Vocational Association, May 10, New Bedford.

Michigan Industrial Education Society, April 10, 11, 12; Cass Technical High School, Detroit.

New Jersey Vocational Association, March 20, 21, 22; Beckley-Carteret Hotel, Asbury Park.

New York Vocational and Practical Arts Association, April 7, 8, 9, 10; Pennsylvania Hotel, New York City.

Pennsylvania Vocational Association, June 20, 21; Eagles Mere.

Ohio Industrial Arts Association, April 4, 5; Columbus.

Tennessee Vocational Association, April 3 or 4.

Texas Vocational Association, April 3, 4, 5; Hotel Texas, Fort Worth.

Wisconsin Vocational & Adult Education Association, May 1, 2, 3; Hotel Schroder, Milwaukee.

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Life Adjustment Program

(Continued from page 19)

complete a four year program of secondary education, the so-called drop-outs. • • • •

Each of the five conferences on the Prosser Resolution had the same purpose and in general has followed the same agenda and operated under the same procedures.

From these conferences may be drawn some very definite conclusions. Among those pertinent are 10 which present a consensus of the studied judgments of the more than 100 conferees.

1. Recognition with strong conviction that secondary education today is failing to provide adequately and properly for life adjustment of perhaps a major fraction of the persons of secondary school age.
2. Public opinion can be created to support the movement to provide desirable life adjustment education for those youth; laymen can be convinced of the need and will contribute their influence and earnest thinking to the needed solutions.
3. There is need for an educational program based upon individual differences and group characteristics.
4. A broadened viewpoint and a genuine desire to serve all youth are needed on the part of teachers and impose the question of how to prepare qualified personnel.
5. Community cooperation is essential.
6. Areas of human experiences most often stressed. (Industrial arts, family life, health and physical fitness, civic competence, mastery of languages.)
7. Work as a desirable educational experience.
8. Broadening pupil experiences.
9. Broadening school administrative units.
10. Pupil personnel services.

Of the many proposals and suggestions for desirable next steps, those upon which there was full agreement were: A national conference in 1947 to include both leaders from lay groups and from education; adjustment of work schedules of specialists in the U.S. Office so they may make studies of value in planning the national conference and in preparing the report; a full report of the national conference for general distribution; an agreement with some schools to try out features designed to serve better those youth with whom the Prosser resolution is concerned; an effort to stimulate both state and local educational agencies to "carry the ball" for the Prosser Resolution in their localities; an orderly and organized effort to obtain an enlarged and adequately staffed Office of Education in order to exercise the leadership which the schools expect.

Products and Services Guide

Detailed facts about many new teaching aids and school supplies announced by advertisers may be obtained by encircling the numbers opposite materials described in this index and using coupon below. Requests will receive prompt attention.

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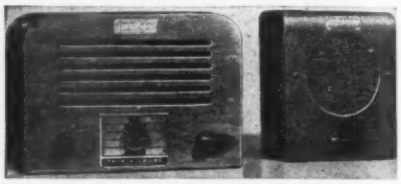
Potter Instrument Co. announces the 100 K.C. Decimal Scaling Circuit. This unit, Potter Model #85, designed to respond to pulses occurring at rates as high as 100 K.C. per second, will aid precise determination of radiation intensity as a convenient and reliable decimal scaler in conjunction with Geiger-Mueller radiation detecting circuits. 3

Testa Manufacturing Co. offers for school, laboratory, and hobby use a new line of low-cost microscopes. Accessories include interchangeable objectives and eye pieces, darkfield illumination, polarized attachment, and sturdy wood carrying case. 4

Alfred W. Barber Laboratories has a new High Frequency Electronic Voltmeter Model 32. By equipping this Voltmeter with a radio frequency probe having the low input capacity of ¾ micro-microfarad, they have developed an instrument which extends the range of measurement ten times, from 50 to 500 megacycles. 5

Pittsburgh Plate Glass Co. has a new full-color 32-page booklet showing how scientific use of the energy in color is employed in plants and factories to increase over-all efficiency. 6

Talk-A-Phone Company's latest model is the Special DeLuxe Line incorporating all of the latest features such as "Alnico 5" speakers, "Insta-Action" selector switch and a powerful high-gain amplifier which delivers the maximum output of brilliant "Voice Range" power. The cabinet is in walnut and streamlined. 7



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Who's Who

Samuel W. Caplan, former business man ond instructor in the schools of Philadelphia, has been appointed chief of the division of distributive education, Pennsylvania Department of Public Instruction.

Charles P. Harper has resigned as state supervisor of occupational information and guidance in West Virginia, to accept a position as associate professor of political science at Marshall College.

New appointments in Louisiana are **H. O. Thomas,** assistant supervisor in industrial arts education; **Murray I. Jones,** assistant supervisor of veterans education; **H. C. Givens,** assistant supervisor of trade and industrial education in the veterans program.

Eleanor M. Zeis has been appointed state supervisor of occupational information and guidance for Mississippi. She will have responsiblity for organizing and developing this service in the public secondary schools of the state.

A. Catherine Kidd is a new member of the faculty of the University of Idaho replacing **Marion Featherstone** who has accepted a position at the University of Washington. Miss Kidd is a former teacher in the Dayton, Ohio, schools.

Roy W. Schroeder, foundry instructor at the Washburn Trade School in Chicago, has been appointed to the educational division apprentice contest committee of the American Foundrymen's Association, the technical society of the castings industry.

Mrs. Carmen Velez de Medina, former district supervisor, has received her master's degree in home economics education at the University of Minnesota and has returned to Puerto Rico as itinerant teacher trainer.

Five assistant supervisors have been added to the staff of the Illinois State Board for Vocational Education. **C. R. Wright,** vocational auto mechanics instructor at Dundee Township High School, has been appointed assistant state supervisor of trade and industrial education. **Jon P. Adams,** also assistant supervisor of trade and industrial education, had been with Proviso Township High School where he established one of the largest vocational machine shops in Illinois. **Robert Kozelka,** assistant supervisor of business education, is a former owner and operator of a hardware business. **Dale Roberts** is the first assistant supervisor of industrial arts education on the trade and industrial education staff. He comes from the Maine Township High School. **Richard L. Ready,** who has been building trades instructor at Paris, Ill., has joined the trade and industrial education staff as assistant supervisor.

Jack Ruch, who has been state supervisor of vocational agriculture in Wyoming, has accepted a position as teacher trainer at the State University at Laramie.

Hubert Wheeler, Marshall, Missouri superintendent of schools, has been named Missouri's first appointed commissioner of education. He succeeds **Roy Scantlin,** the last elected state superintendent. The new constitution abolished the elective office and provided for an 8-member state board of education which appoints the commissioner. Mr. Scantlin was not a candidate.

F. A. Nylund, formerly with the University of Minnesota and Cornell University, has been appointed professor of agricultural education at North Carolina State College of Agriculture and Engineering of the University of North Carolina, at Raleigh.

In Tribute

Mrs. Cecil B. Goodwin, teacher trainer specializing in work for women and girls at the University of Texas, died January 29. Mrs. Goodwin was supervisor and assistant director of vocational education with the public schools of Houston, Texas, for 20 years before joining the staff of the University. Her last work was completion of the study, *Women at Work in Texas.*

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AVA PUBLICATIONS

Research Bulletin No. 1 — Occupational Adjustments of Vocational School Graduates. 1940. Pp. 132. Price 10 cents each; 10 or more, 5 cents each.

SURVEY FORMS for use in making local or area studies of graduates and former students of industrial, home economics, or agricultural education schools or departments; useful to occupational guidance, training, and placement programs. 1940. Pp. 4 ea. Prices: 10 copies, 15 cents; 100 copies, $1.05; 1,000 copies, $8.25.

Research Bulletin No. 2—A Study of Industrial Teacher Education at the Graduate Level. 1941. Pp. 42. Price, 10 cents each; 10 or more, 5 cents each.

An Enlarged Program of Vocational Education With Special Reference to Larger Administrative Units. 1943. Pp. 52. Price, 40 cents each; 10 or more, 35 cents each.

Improving Instruction in Industrial Arts. 1946. Price, 25 cents each; 10 or more, 20 cents each.

State Supervision of Industrial Arts Education. 1946. Free.

America's Vocational Schools. 1945. Pp. 56. Prices: single copies, 20 cents each; 100 or more, 15 cents per copy; 1,000 or more, 13 cents per copy.

The Carry-Over Into Homes of the Teaching of Family Living to In-School and Out-of-School Youth. 1943. Pp. 17. Prices: 1 to 9 copies, 20 cents each; 10 to 99 copies, 15 cents each; 100 or more copies, 9 cents each.

Evaluative Criteria for Vocational Education in Agriculture. 1942. (Revised). Pp. 75. Prices: 20 cents each; 10 or more copies, 15 cents each.

Manual of Directions for Use with "Evaluative Criteria for Vocational Education in Agriculture, 1942 Revision." 1943. Pp. 15. Prices: 1 to 9 copies, 10 cents each; 10 to 99 copies, 9 cents each; 100 or more copies, 8 cents each.

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WHAT DO YOU THINK?

WHAT is the "Worker Education" now being widely discussed? The U. S. Department of Labor recently has created a department to be known as the Labor Education Service and has appointed a part-time director. What will this new Service offer? Does it mean that the education of workers is to become something apart from established public education? Is this step indicative of a trend, and if so, is it necessary?

Are we at fault? Over the years we could have been exerting leadership in providing the kinds of courses needed and wanted by workers, through our evening classes. Could we not have done this through our related subjects courses?

Webster's definition of the word "related" is: "Connected by reason of an established or discoverable relation." How often we have discussed "Related subjects for persons pursuing vocational trade and industrial education courses," written about it, reported classes, and requested approval to use Federal money in payment of salaries of teachers of related subjects. What are these subjects for which Federal funds can be used? Vocational educators say, "mathematics, science, and drawing as related to trade courses; English as related to trade printing," etc.

The Federal policies dealing with related subjects are based upon an interpretation of the following sections of the Smith-Hughes Act:

*"Such education shall be of less than college grade and shall be designed to meet the needs of persons over 14 years of age who are preparing for a trade or industrial pursuit or who have entered upon the work of a trade or industrial pursuit; . . . and such subjects in a part-time school or class may mean any subject given to enlarge the civic or vocational intelligence of such workers over 14 and less than 18 years of age; . . . that evening industrial schools shall fix the age of 16 years as a minimum entrance requirement and shall confine instruction to that which is supplemental to daily employment; . . ."**

THERE has been little if any change in the interpretation of the subjects which can be reimbursed as related subjects in the trade and industrial education field since the passage of the Smith-Hughes Act. Yet industry has changed and worker requirements, needs, and conditions certainly have changed since then.

There has been no question as to the justification of shop mathematics as a reimbursable related subject for workers in machine shops or persons preparing to become machinists. It is not uncommon to have machine operators in evening shop mathematics classes. Drill press and other machine operators are enrolled in such reimbursable classes and in many cases it is merely assumed that they need the instruction in their daily work. Many of the workers attending adult evening classes never may use the material taught in these related courses. Of course, "it is good for them," and some may be promoted to better paying positions because they have had it.

THERE should be no quarrel with either offering these subjects or with the use of Federal funds to reimburse salaries of the teachers. More important is recognition of the fact that workers today need other information and abilities, some even to a greater extent than they need mathematics or science related to the trade in which they are or may be employed.

Workers need to know state and Federal labor laws; they need to know about collective bargaining, labor organizations, management problems, and other significant subjects—things that they do need on their present jobs. Such information is vital to their success on the job NOW, and may have a direct bearing upon daily job performance. Why should such subjects not be reimbursed as readily as related mathematics or related science?

It is not intended to imply that vocational education should encompass the entire category of subjects desirable for workers. It is evident, however, that a careful study of the needs of workers for instruction pertinent to success in holding a job (and often essential to getting a job under present highly organized working conditions) will reveal many subjects which should be part of the vocational education program. Instruction which cannot justifiably be financed from Federal vocational funds certainly could be part of the general education program of adult and evening school education and can be financed from funds administered by the existing Federal, state, and local educational agencies.

ANY subject carrying information of value to workers in doing their jobs may honestly be called "worker's education." It does not seem that this service to workers should require a special department of worker's education in an organization other than the legally constituted public educational agencies, Federal, state, and local. Much of the information given under the head of "worker's education" certainly should be reimbursable in our vocational classes where material supplementary to daily employment is offered.

It is not too late for rendering a real service to workers by providing some needed courses under the reimbursable program. This can be justified under the basic vocational education Act; it merely requires a broadening of the interpretation of the Act.

Can not the U. S. Office of Education, state and local educational agencies meet the needs of special groups by providing qualified instructors, pertinent courses, and necessary and authentic information?

What do you think?

George H. Fern

Note: Material presented in this column represents the opinions and viewpoints of the managing editor. It in no way commits the American Vocational Association, Inc.

*See also Federal Policy Bulletin No. 1, pages 40, 52, 53.

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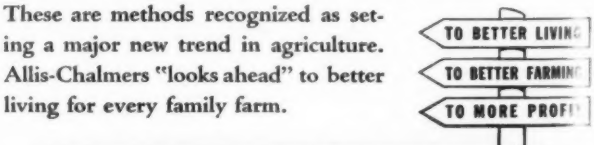

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